

## REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol

RCS: 98-19

IONS: Section I to be completed by Proponent; Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).

## ON I - PROPONENT INFORMATION

1. TO (Environmental Planning Function)

ABW/EM

2. FROM (Proponent organization and functional address symbol)

99 CES/CERR

2a. TELEPHONE NO.

2-3304

## 3. TITLE OF PROPOSED ACTION

Amend Permit No. DACA09-4-96-0039 to the Department of the Army for 63rd Regional Support Command

## 4. PURPOSE AND NEED FOR ACTION (Identify decision to be made and need date)

To Amend 55 yr permit to include an additional 2.6 acres. Original design proved to be inadequate. Additional space for 14 vehicles located in the Military Equipment Park (MEP) is required.

## 5. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (DOPAA) (Provide sufficient details for evaluation of the total action.)

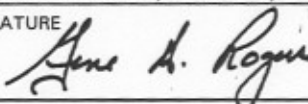
The Corps of Engineers has redesigned the MEP and relocated the Organizational Maintenance Shop in an attempt to remedy the situation. This solution leaves 14 vehicles unable to be located in the MEP; therefore, an additional 2.6 acres is requested.

## 6. PROPONENT APPROVAL (Name and Grade)

GENE A. ROGERS, GS-14

Deputy Base Civil Engineer

## 6a. SIGNATURE



## 6b. DATE

4-9-98

## SECTION II - PRELIMINARY ENVIRONMENTAL SURVEY. (Check appropriate box and describe potential environmental effects including cumulative effects.) (+ = positive effect; 0 = no effect; - = adverse effect; U = unknown effect)

+	0	-	U
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		
	X		

7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE (Noise, accident potential, encroachment, etc.)

X

8. AIR QUALITY (Emissions, attainment status, state implementation plan, etc.)

X

9. WATER RESOURCES (Quality, quantity, source, etc.)

X

10. SAFETY AND OCCUPATIONAL HEALTH (Asbestos/radiation/chemical exposure, explosives safety quantity-distance, etc.)

X

11. HAZARDOUS MATERIALS/WASTE (Use/storage/generation, solid waste, etc.)

X

12. BIOLOGICAL RESOURCES (Wetlands/floodplains, flora, fauna, etc.)

X

13. CULTURAL RESOURCES (Native American burial sites, archaeological, historical, etc.)

X

14. GEOLOGY AND SOILS (Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)

X

15. SOCIOECONOMIC (Employment/population projections, school and local fiscal impacts, etc.)

X

16. OTHER (Potential impacts not addressed above.)

X

## SECTION III - ENVIRONMENTAL ANALYSIS DETERMINATION

17. ☒ PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) # A2.3.11; OR Army Reserve Center EA/FONSI  
☐ PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED. (EIAP 94-10)

## 18. REMARKS

4 Atchs

AWFC/JAV 

Permit No. DACA09-4-96-0039

12 Aug 97, 99 ABW Environmental Baseline Study

23 Dec 97, Dept of the Army Ltr

2 Mar 98, Dept of the Army Ltr

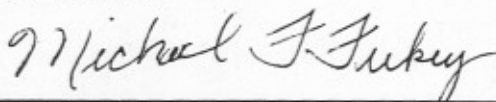
The proposed action is in a non-attainment area for CO and PM10. The emissions resulting from the action would be de minimus. A formal Conformity analysis is not required.

## 19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade)

MICHAEL F. FUKEY, Col, USAF

Director, Environmental Management

## 19a. SIGNATURE



## 19b. DATE

29 May 98

Report Documentation Page			Form Approved OMB No. 0704-0188		
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1. REPORT DATE <b>28 MAY 1998</b>		2. REPORT TYPE <b>N/A</b>		3. DATES COVERED	
4. TITLE AND SUBTITLE <b>Addendum to the Environmental Baseline Survey for the Land Lease to the 63rd Regional Support Comand</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Nellis Air Force Base</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
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14. ABSTRACT					
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16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>UU</b>	18. NUMBER OF PAGES <b>185</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## **ADDENDUM TO THE ENVIRONMENTAL ASSESSMENT FOR THE ARMED FORCES RESERVE CENTER AND OPERATIONAL MAINTENANCE FACILITY FOR THE 63<sup>RD</sup> REGIONAL SUPPORT COMMAND**

On 31 July 1996 a Finding of No Significant Impact (FONSI) was signed for the Armed Forces Reserve Center/Organizational Maintenance Shop at Nellis Air Force Base. The FONSI was based on the information analyzed in an Environmental Assessment (EA). At that time, the EA was prepared based on the size of the Reserve Center being 16.5 acres. The Environmental Baseline Survey was based on a legal description of 17.4 acres. The Real Estate Permit allowing the construction to go forward had a legal description of 21.8 acres. On 2 March 1998, the 63<sup>rd</sup> Regional Support Command requested an additional 2.6 acres bringing the total acreage to 24.4 acres. This addendum will address the original discrepancies and the additional 2.6 acres.

The additional acreage would be paved with asphalt and used as a Military Equipment Park (parking lot) for the Heavy Equipment Transporters and trailers (HET). These vehicles are over 80 feet long and 12 feet wide (mirrors extended). The reason for the additional property is due to a miscalculation for the size of the parking lot. The 4.4 acre discrepancy from the original Environmental Baseline Survey and the original Permit is shown on Figure 1. The original EA did not include a legal description, so it is impossible to know exactly where the discrepancy occurred. However, since 99 ABW/EM office contracted the EA and prepared the EBS, it is logical to assume that the EA and EBS closely match in shape. A nine foot error around the perimeter would comprise .9 acres.

Although the acreage differs, the analysis of the EA and FONSI would apply to the discrepancies and the additional 2.6 acres. The entire property from Range Road and DRMO Road to Carafelli Court had been completely disturbed for years. There is no potential for adverse impacts to biological or cultural resources. Except for the amount of acres, the proposed action has not changed. The size and use of the facilities and the number of vehicles is the same as the original EA. The parking lot did get bigger because of the miscalculation.

The project is being constructed adjacent to FamCamp and Carafelli Court. The potential for noise impacts were analyzed in the original EA and a sound wall was added to the proposed action. The addition would be nearer to FamCamp and Carafelli Court and would require an extension of the sound wall. The 63<sup>rd</sup> RSC would continue the sound wall.

A modification to the Clark County Surface Disturbance Permit will be required to reflect the current acreage.

The proposed addition and the discrepancy qualifies for Categorical Exclusion A2.3.11 per Air Force Instruction AFI 32-7061, actions similar to other actions. In this case, the similar action is the parent EA for the Armed Forces Reserve Center.

# ADDENDUM TO THE ENVIRONMENTAL BASELINE SURVEY FOR THE LAND LEASE TO THE 63<sup>RD</sup> REGIONAL SUPPORT COMMAND

9 April 1998

The purpose of this addendum is to correct inconsistencies between the Environmental Baseline Survey (EBS) and the Permit issued to the 63<sup>rd</sup> RSC. Also, the 63<sup>rd</sup> RSC wishes to add 2.6 acres to the Permit, this addendum will address the additional area. The original EBS addressed 17.4 acres, but the original Permit was written for 21.8 acres. This addendum also applies to the 4.4 acres discrepancy.

A site visit was conducted on 9 April 1998. No surface contamination was observed and the condition of the property is identical to the property addressed in the original documentation, with two notable exceptions. The exception is that the additional area overlies the CalNev Pipeline. The planned activity for the additional area is for vehicle parking and will be paved with asphalt.

CalNev Pipeline Company has been contacted regarding the subject area. CalNev requires that the 63<sup>rd</sup> Regional Support Command supplies CalNev engineers with the drawings and specifications for review and approval prior to construction. Further, CalNev reserves the right to saw cut and excavate through the asphalt for any necessary repairs and will backfill and compact the trench, but will not be responsible for improvements (repaving).

Environmental Baseline Survey Addendum Certification  
Nellis AFB Environmental Management Directorate (99 ABW/EM) has conducted this EBS addendum. 99 ABW/EM has reviewed all appropriate records and conducted visual site inspections of the land being leased. The information contained within this addendum is, to the best of 99 ABW/EM's knowledge, is correct and current as of 28 May 1998.

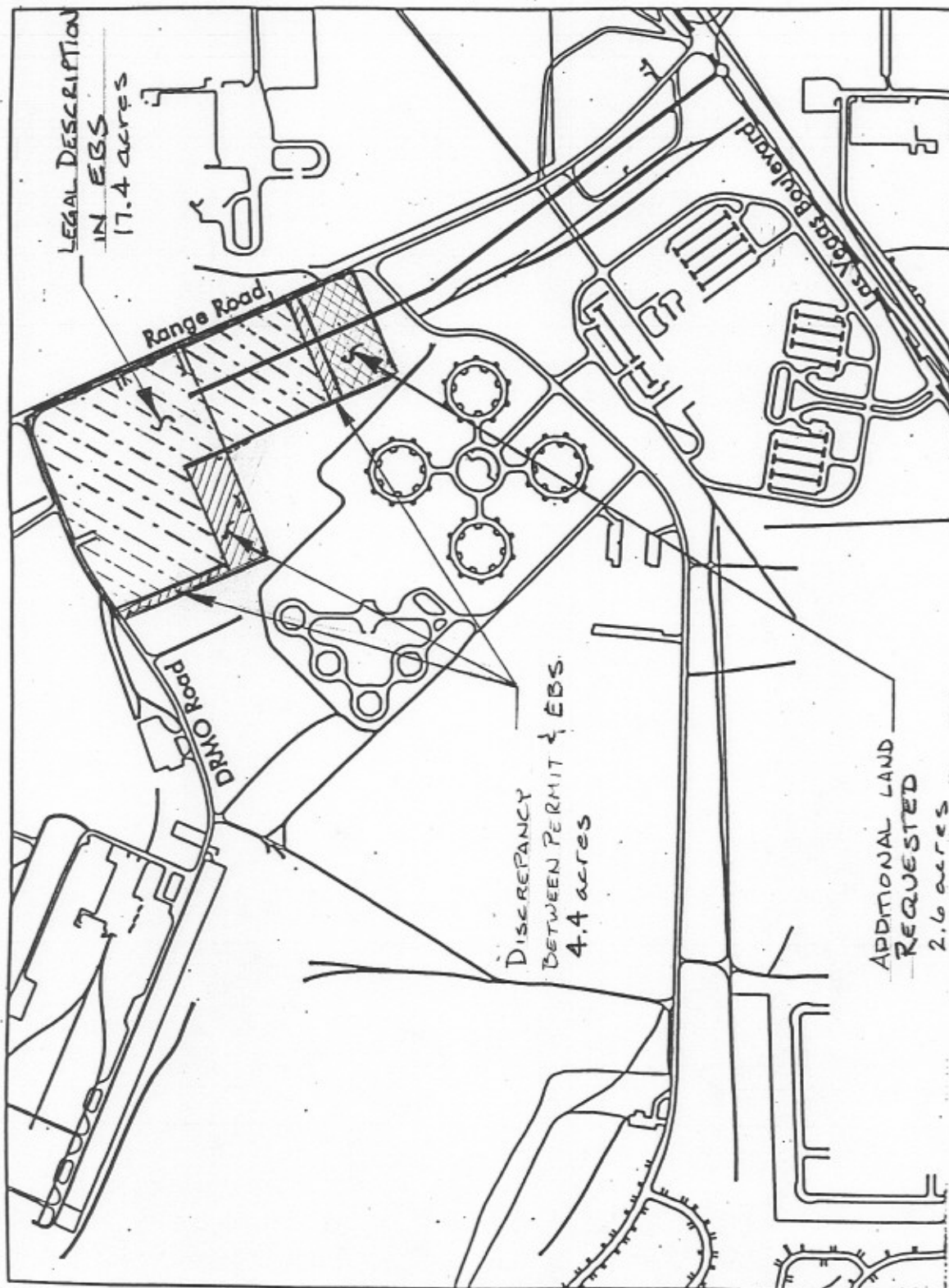
Certified by: *James Campe*  
JAMES CAMPE, GS-12  
Environmental Engineer

Date: 29 May 98

Approved by: *Michael F. Fukey*  
MICHAEL F. FUKEY  
Colonel, USAF  
Director, Environmental Management

Date: 29 May 98





NOTE: THE EA DESCRIBED THE SITE AS 16.5 ACRES,  
BUT DID NOT PROVIDE A LEGAL DESCRIPTION.

FIGURE 1

DEPARTMENT OF THE AIR FORCE  
PERMIT TO OTHER FEDERAL GOVERNMENT DEPARTMENT OR AGENCY  
TO USE PROPERTY LOCATED ON  
NELLIS AIR FORCE BASE, CLARK COUNTY, NEVADA

THE SECRETARY OF THE AIR FORCE, hereinafter referred to as the Secretary hereby grants to DEPARTMENT OF THE ARMY, FOR USE BY THE U.S. ARMY RESERVES, hereinafter referred to as the grantee, a permit for a reserve center, over, across, in and upon the lands identified in Exhibit "A," attached hereto and made a part hereof, hereinafter referred to as the premises.

THIS PERMIT is granted subject to the following conditions.

1. This permit is hereby granted for a term of fifty five (55) years, beginning August 1, 1996, and ending 31 July 2051, but revocable at will by the Secretary.

2. All correspondence and notices to be given pursuant to this permit shall be addressed, if to the grantee, to Headquarters, 63rd Regional Support Command, 11200 Lexington Drive, Los Alamitos, California 90720-5002, also to the Corps of Engineers addressee shown below. If to the United States, to the Commander, 558th Civil Engineer Squadron, 6020 Beale Avenue, Nellis AFB, Nevada 889191-7260, Attn: Real Estate also to the U.S. Army Corps of Engineers, 3636 No. Central Avenue, Suite 770, Phoenix, Arizona 85012-1936, Attn: Real Estate, or as may from time to time otherwise be directed by the parties. Notice shall be deemed to have been duly given if and when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, and deposited, postage prepaid, in a post office regularly maintained by the United States Postal Service.

3. The use and occupation of the premises shall be without cost or expense to the Department of the Air Force, and under the general supervision and subject to the approval of the Installation Commander, Nellis Air Force Base, or his duly authorized representative, hereinafter referred to as said officer and to such rules and regulations as may be prescribed from time to time by said officer.

4. The grantee acknowledges that it has inspected the premises, knows its condition, and understands that the same is

granted without any representations or warranties whatsoever and without any obligation on the part of the Department of the Air Force.

5. The grantee shall, at its own expense and without cost or expense to the Department of the Air Force, maintain and keep the premises in good repair and condition.

6. Any interference with the use of or damage to property under control of the Department of the Air Force incident to the exercise of the privileges herein granted shall be promptly corrected by the grantee to the satisfaction of said officer.

7. The grantee shall pay the cost, as determined by the officer having immediate jurisdiction over the premises, of producing or supplying any utilities and/or other services furnished by or through the Department of the Air Force for the use of the grantee.

8. No additions to or alterations of the premises shall be made without the prior written approval of the Installation Commander.

9. On or before the date of expiration of this permit or its relinquishment by the grantee, the grantee shall vacate the premises, remove its property therefrom if, however, this permit is revoked, the grantee shall vacate the premises and remove its property therefrom within such time as the Installation Commander may designate.

10. The grantee shall comply with all applicable Federal, state, county and municipal laws, ordinances and regulations wherein the premises are located.

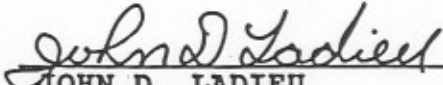
11. A Environmental Baseline Survey (EBS) documenting the known history of the property with regard to the storage, release or disposal of hazardous substances thereon is attached hereto and made a part hereof as Exhibit "B". Upon expiration, revocation or relinquishment of this permit, another PAS shall be prepared which will document the environmental condition of the property at that time.

12. It is understood that the requirements of this permit pertaining to maintenance, repair, protection, and restoration of the premises and reimbursement for utilities and other services, shall be effective only insofar as they do not conflict with any agreement, pertaining to such matters made between local representatives of the grantor and grantee in accordance with existing regulations.

THIS PERMIT is not subject to Title 10, United States Code, Section 2662, as amended.

Figure 8-F-1 (Continued)

IN WITNESS whereof, I have hereunto set my hand by authority  
of the Secretary of the Air Force, this 6th day of September,  
1996.

  
JOHN D. LADIEU  
COLONEL, USAF  
INSTALLATION COMMANDER

This permit is also executed by the grantee this 9th  
day of August, 1996.

  
RICHARD GUTHRIE  
CHIEF, REAL ESTATE DIVISION





DATE: 9 August 1996  
ACQUISITION TRACT #: 100  
AREA: 21.8 ± acres  
GRANTOR: U.S. Air Force, Nellis AFB  
PROJECT/REMIS CODE: Armed Forces Reserve Center  
LOCATION: Nellis AFB (Clark County), Nevada  
CESPL-RE-PC FILE: 760-M-1

DESCRIPTION FOR PERMIT,  
ARMED FORCES RESERVE CENTER AND OMS SITE

A parcel of land in the County of Clark, State of Nevada, situate in Section 33, Township 19 South, 62 East, Mount Diablo Base & Meridian, within the Nellis Air Force Base military reservation, described as follows:

BEGINNING at the intersection of the centerlines of Range Road and DRMO Road;  
THENCE southeasterly along the centerline of said Range Road a distance of 1290 feet;  
THENCE, leaving said Range Road centerline, southwesterly and at right angles to last-said course, a distance of 450 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 550 feet;  
THENCE at right angles to last-said course, southwesterly a distance of 440 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 753 feet, more or less, to the centerline of the said DRMO Road;  
THENCE northeasterly along the centerline of said DRMO Road by various courses and distances, to the POINT OF BEGINNING;  
EXCEPTING THEREFROM so much thereof as may lie within the paved areas of Range Road and DRMO Road;  
and the aggregate area of said Parcel of Land, less the exception noted above, being about 21.8 acres of land, more or less.  
////////////////////END OF DESCRIPTION////////////////////

SCRIVENER Richard W. Nagle DATE 9 August 1996  
Richard W. Nagle

File 760-M-1

**EXHIBIT A**



DEPARTMENT OF THE ARMY  
HEADQUARTERS, 83D REGIONAL SUPPORT COMMAND  
PO BOX 3001  
LOS ALAMITOS, CA 90720-1301

REPLY TO  
ATTENTION OF:

AFRC-CCA-EN-P

23 Dec 97

MEMORANDUM FOR Department of the Air Force, 558th Civil Engineering Squadron (ACC)  
ATTN: 558 CES-CEER (Ms. Judy Pace), 6020 Beale Avenue,  
Nellis AFB, NV 89191-7260

SUBJECT: Request for Additional Land for Military Equipment Park (MEP) at Armed Forces Reserve Center, Nellis AFB.

1. The Army Reserve is currently constructing a new facility at Nellis AFB. This facility will relieve the overcrowding of personnel and vehicles at our current center on Sahara Ave.
2. The design of the MEP has been determined to be inadequate. One of the units that will be using the facility has undergone a vehicle modernization. Due to size and maneuverability, these vehicles require three times the parking space that was identified in the original DA 1390,91 , Military Construction Project Data.
3. The Corps of Engineers has already redesigned the MEP and relocated the Organizational Maintenance Shop (OMS) in an attempt to remedy the situation. This solution still leaves 14 vehicles unable to be located in the MEP. ~~We therefore request an additional parcel of approximately two acres be added to the existing permit.~~
4. We are urgently in need of your assistance on this matter. The aforementioned corrective changes already introduced by the Corps of Engineers have produced outrageous extra cost claims from the construction contractor. A representative from the Office of the Chief, Army Reserve will visit the site for an in progress review on 6 January 1998. It would be valuable to report feasibility of acquiring the additional parcel and the schedule for accomplishing this action. It would be desirable and in the interest of the Government to negotiate with the contractor a comprehensive solution to this issue at the earliest possible date.
5. My POC for this action is Mr. Mark Cutler at DSN 972-1438. We thank you in advance for your earliest attention and cooperation.

FOR THE COMMANDER:

RICHARD A. GARZA  
LTC, EN, USAR  
Deputy Chief of Staff, Engineers



**ENVIRONMENTAL BASELINE  
SURVEY FOR THE LAND LEASE  
TO THE 63RD REGIONAL SUPPORT  
COMMAND**

**12 AUGUST 1996**

Environmental Baseline Survey

for the

Land Lease

to the 63rd Regional Support Command

Prepared by:

USAF 99 ABW/EM  
Nellis Air Force Base, Nevada

12 August, 1996



## Executive Summary

Nellis Air Force Base proposes to lease land from Nellis AFB to the 63rd Regional Support Command (RSC). The area being considered is 16.5 acres North of Nellis AFB, NV.

The Environmental Baseline Survey (EBS), is being accomplished in accordance with Air Force Instruction (AFI) 32-7066, which determines the level of analysis. The proposed lease fits into a Phase I Category 1 finding i.e., where there is no evidence to indicate that hazardous substances or petroleum products have ever been stored, released, or disposed of on the site. This conclusion is a result of reviewing all past records of land activities on the subject properties. In addition to the literature and files review, the subject area was visually inspected.

The Environmental Management Directorate surveyed the properties being leased for environmental contamination. A review of the Installation Restoration Program, aerial photos, and a visual inspection, no contaminants exist on or near the subject property being leased to the RSC.

The site being considered for lease has been previously disturbed as a result of surface excavation of fill material for the Nellis Federal Hospital. The site has sparse vegetation, however, no biological or cultural resources were identified during the Environmental Assessment (EA).

### Section 1.0 Purpose of Environmental Baseline Survey

This baseline survey serves as the basis for notice of environmental conditions under Section 120 (h)(1) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended [42 U.S.C. 9620 (h)(1)]. This baseline survey is being conducted in accordance with Air Force Instruction 32-7066 (Apr 94). The purpose of this EBS is to document the nature, magnitude and extent of environmental contamination of property being considered for lease from Nellis AFB to RSC.

#### 1.1 Boundaries of the Property and Survey Area

Legal Description: Following is the legal description for the land being leased:  
BEGINNING at the intersection of the centerlines of Range Road and DRMO Road;  
THENCE southeasterly along the centerline of said Range Road a distance of 1255 feet;  
THENCE, leaving said Range Road centerline, southwesterly and at right angles to last-said course, a distance of 450 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 760 feet;  
THENCE at right angles to last-said course, southwesterly a distance of 420 feet;

THENCE at right angles to last-said course, northwesterly a distance of 500 feet to the centerline of the said DRMO Road;  
THENCE northeasterly along the centerline of said DRMO Road by various courses and distances, to the POINT OF BEGINNING;  
EXCEPTING THEREFROM so much thereof as may lie within the paved areas of Range Road and DRMO Road;  
and the aggregate area of said parcel of land, less the exception noted above, being about 17.4 acres of land, more or less.

## **Section 2.0 Survey Methodology**

### **2.1 Approach and Rationale**

A review of prior surveys, an inspection of the property, personal interviews, review of the Base Installation Restoration Program, review of the installations Base Comprehensive Plan, and an EA completed for the proposed Armed Forces Reserve Center/Organizational Maintenance Shop. This approach was used to analyze the subject property to ensure no ecological or cultural resources would be impacted if the subject properties were leased to RSC. The results indicated no impact to human health or the environment.

#### **2.1.1 Description of Documents Reviewed**

Draft Environmental Assessment for a proposed Exchange of Abandoned Railroad Right of Way Segments, Nellis AFB, Nevada (1995)  
Management Action Plan, Nellis AFB, NV (1995)  
Environmental Baseline Survey for Nellis AFB Land Acquisition (1996)  
Nellis Air Force Base Comprehensive Plan (1991)

#### **2.1.2 Property Inspections**

A site visit was conducted on 30 January 1996. No sign of dumping was observed in the land being leased.

#### **2.1.3 Personal Interviews**

Personnel contacted are listed at Appendix E.

#### **2.1.4 Sampling**

No soil samples were taken of subject property. During the preliminary assessment for the installation restoration program study, the land being considered for lease was not identified as an area of concern.

## Section 3.0 Findings for Subject Property

### 3.1 History and Current Use

The Army Appropriation Act of July 9, 1918, provided for allowing the President to reserve unappropriated public domain land for aviation fields for testing and experimental work setting the stage for establishment of Nellis AFB. Nellis AFB has been used for flight operations since 1929. Until 1940 the field consisted of dirt runways, a few buildings, and related utilities. In 1940, by Executive Order 8578 (Withdrawal of Public Land for use of the War Department as Aerial Bombing and Gunnery Range), Franklin D. Roosevelt, withdrew approximately 3,560,000 acres of land in southern Nevada as an aerial bombing and gunnery range. In the EO it is stated: "By virtue of the authority vested in me by section 1 of the act of July 9, 1918, c. 143, 40 Stat. 845, 848 (U.S.C., title 10, sec. 1341), it is ordered that, subject to valid existing rights, all the public land within the following-described area be, and it is hereby, withdrawn from all forms of appropriation under the public-land laws, including the mining laws, and reserved for the use of the War Department as an aerial bombing and gunnery range." The EO went on to say: "The withdrawal made by this order shall take precedence over, but shall not rescind or revoke, as to any of the land affected thereby in the above-described area, the withdrawals made by Executive Order No. 6910 of November 26, 1934, as amended, and Executive Order No. 7373 of May 20, 1936, withdrawing certain lands for wildlife and other purposes." In 1941, the City of Las Vegas purchased and improved the field for use in training civilian pilots. Later air gunnery training was stated in 1942 and concentrated on training B-17 gunnery school. Early in 1945, B-29 gunnery and B-24 copilot training replaced the B-17 gunners. Later that year the base was deactivated. It was reactivated in 1949 as the host of the Air Training Command's 3595th Pilot Training Wing for advance single-engine training. A U.S. Air Force Aircraft Flexible Gunnery School was also established at the base in 1949. Its mission was to train instructors in all phases of fighter gunnery, rocketry, and dive bombing. Eventually, this effort became the core of Nellis AFB program.

As evident from its history, Nellis AFB has a dynamic and varied past in changing out aircraft to more advanced fighter vehicles. Nellis AFB consists of the Weapons School, Operations Group, Logistic Group, Test Group and USAF Air Deterrent Squadron. The F-15 C, D, & E; F-16 C & D; A-10, F-117A, HH-60G, and T-38A jet aircraft are all currently flown by the 57th Wing.

Since 1941, Nellis AFB has been assigned stewardship of the parcel of land in Area III. The spur under review was an existing easement to Union Pacific. As part of the easement clause, the land would revert back to the City of Las Vegas once the rail spur was no longer used. Since 1978, Union Pacific has not used the subject rail spur. Therefore, the City of Las Vegas has assumed ownership and has agreed to the land swap with Nellis AFB. In turn, Nellis AFB is leasing the property to RSC.

### 3.2 Environmental Setting



The climate of the Las Vegas Valley is typical of the Basin and Range Province ranging from arid in the basin lowlands, to semi-arid on the alluvial aprons, to sub-humid in the mountains. The arid climate of the basin lowlands is characterized by low relative humidity, low precipitation, and a wide variety of diurnal temperatures. Evaporation in the Las Vegas Valley is high. This is partially due to the high annual average temperature, but is also influenced by wind and the prevalent low humidity.

Nellis AFB, located in the Las Vegas Valley is one of the driest and warmest areas in the nation. The climate consists of hot summers, cool winters, and a wide fluctuation in annual rainfall. Summer temperatures above 105 degrees F. and winter temperatures below freezing are common. The average daily minimum and maximum temperatures during the winter months are about 35 degrees and 60 degrees F. During the summer nights, minimum temperatures average 70 to 75 degrees F. With the low precipitation, high evaporation, the absence of major surface waters, moderately deep ground water levels, and the remoteness of the area limit the possible pathways for hazardous contaminant migration. The permeability of the soil is low.

### 3.3 Hazardous Substances

According to the Installation Restoration Program (IRP) program manager, no hazardous substances were disposed of on subject property.

#### 3.3.1 Hazardous Materials and Petroleum Products

A site visit, review of IRP records, and discussions with installation personnel, no hazardous materials or petroleum products were used on land being leased.

#### 3.3.2 Hazardous and Petroleum Waste

A site visit, review of IRP records, and discussions with installation personnel, no hazardous materials or petroleum products were disposed of on land being leased.

### 3.4 Installation Restoration Program Contamination

According to the IRP program manager, no contamination exist on site being leased.

### 3.5 Storage Tanks

#### 3.5.1 Aboveground Storage Tanks

No petroleum products were stored or used on the properties being leased, therefore, no aboveground storage tanks were used on the site.



### 3.5.2 Underground Storage Tanks

No petroleum products were stored or used on the properties being leased, therefore, no underground storage tanks were used on the site.

### 3.5.3 Pipelines, Hydrant Fueling, and Transfer Systems

According to the Nellis Base Comprehensive Plan (BCP), no pipeline, hydrant fueling or lease systems exist on the land being leased.

### 3.6 Oil/Water Separators

No oil water separators exist on the land being leased.

### 3.7 Pesticides

No facilities, areas of training, or storage of pesticides has occurred on the land being leased, therefore, no pesticides exist on the land being leased.

### 3.8 Medical or Biohazards Waste

A site visit, records search, and discussions with base personnel found no indication of medical or biohazard(s) disposed of on subject property.

### 3.9 Ordnance

The site being leased was never used for ordnance storage, disposal, or training. A site visit, record review, and discussions with base personnel found no indications that ordinances were ever used on the site being leased.

### 3.10 Radioactive Wastes

Discussions with base personnel found no disposal of radioactive wastes on the land being leased.

### 3.11 Solid Waste

The City of Las Vegas did not use the land being leased by the Air Force as a waste area. During the site visit limited surface debris was observed and picked up. No solid waste remains on the site.

### 3.12 Ground water

The depth to ground water beneath Nellis AFB ranges from 60 - 120 feet for the shallow aquifer while the deeper aquifer is 600 - 1000 feet.

### **3.13 Wastewater Treatment, Collection and Discharge**

The site was not used to treat wastewater.

### **3.14 Drinking Water Quality**

No drinking water is obtained from the site being leased.

### **3.15 Asbestos**

No asbestos material was found on land being leased.

### **3.16 Polychlorinated Biphenyl's**

No PCBs exist on the site being leased.

### **3.17 Radon**

No facilities exist on the site being leased.

### **3.18 Lead-Based Paint**

No facilities exist on the site being leased.

## **Section 4.0 Findings For Adjacent Properties**

### **4.1 Land Use**

Nellis AFB consists of 11,496.8 acres, or 17.96 square miles of land area. Area III contains 1.9 square miles or 11 percent of the total Nellis land area. The area is separated from the main base by Las Vegas Boulevard to the southeast of the land being leased. Land use varies from residential, recreational, open space, and industrial. Approximately 865 acres are open space, 200 acres are housing, 111 acres are industrial, and 21 acres for outdoor recreation.

### **4.2 Surveyed Properties:**

BEGINNING at the intersection of the centerlines of Range Road and DRMO Road;  
THENCE southeasterly along the centerline of said Range Road a distance of 1255 feet;  
THENCE, leaving said Range Road centerline, southwesterly and at right angles to last-said course, a distance of 450 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 760 feet;  
THENCE at right angles to last-said course, southwesterly a distance of 420 feet;

THENCE at right angles to last-said course, northwesterly a distance of 500 feet to the centerline of the said DRMO Road;  
THENCE northeasterly along the centerline of said DRMO Road by various courses and distances, to the POINT OF BEGINNING;  
EXCEPTING THEREFROM so much thereof as may lie within the paved areas of Range Road and DRMO Road;  
and the aggregate area of said parcel of land, less the exception noted above, being about 17.4 acres of land, more or less.

## **Section 5.0 Applicable Regulatory Compliance Issues**

### **5.1 List of Compliance Issues:**

The attached environmental compliance certificates indicate no outstanding environmental compliance issues.

### **5.2 Description of Corrective Actions**

No environmental compliance deficiencies exist on properties being relinquished, therefore, no corrective actions will be required.

### **5.3 Estimates of Various Alternatives**

The only alternative considered in the environmental assessment was the no action.

## **Section 6.0 Conclusions**

A review of the Installation Restoration Program found no contaminants on or near the land being leased. Outside of sparse surface vegetation, the land being considered for lease is very disturbed. No natural or cultural resources, wetlands, flood plains, or any environmental media will be added to the Nellis AFB inventory of environmental resources if the land was leased.

### **6.1 Facility Matrix (no facilities are involved in the subject lease).**

### **6.2 Property Categories Map**

Buffer zone for residential and recreational activities.

### **6.3 Resources Map**

Since no critical resources are located on lands being leased, no resource maps are attached.

#### **6.4 Data Gaps (none)**

### **Section 7.0 Recommendations**

For information only.

### **Section 8.0 Certifications**

Certification of the Environmental Baseline Survey

Certification of PCB Clearance

Certification of No Contamination

Certification of No Asbestos

#### **Appendix A: Terms**

#### **Appendix B: Maps**

#### **Appendix C: Site Photograph**

#### **Appendix D: References**

Nellis Air Force Base Comprehensive Plan (1991)

Nellis AFB Installation Restoration Program (IRP) Management Action Plan (1995)

Biological Assessment (1992)

Archaeological Survey, Area III, Nellis Air Force Base, Nevada (1995)

Armed Forces Reserve Center Environmental Assessment (1995)

#### **Appendix E: Interviews**

Mr. James Pedrick, Chief Environmental Restoration

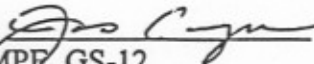
Mr. Eric Watkins, staff biologist

Ms. Mary Ann Cox, real property specialist

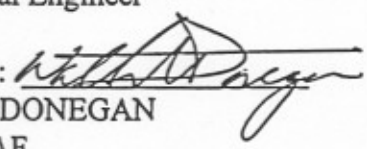


### Certification of the Environmental Baseline Survey

The Nellis Air Force Base Environmental Management Directorate (99 ABW/EM) has conducted this Environmental Baseline Survey on behalf of the Air Force. 99 ABW/EM has reviewed all appropriate records made available and conducted visual site inspections of the selected land being aquired. The information contained within the survey report is based on records made available and, to the best of 99 ABW/EM's knowledge, is correct and current as of 3 July 1996

Certified by:   
JAMES CAMPE, GS-12  
Environmental Engineer

Date: 3 July 96

Approved by:   
WALTER J. DONEGAN  
Colonel, USAF  
Director, Environmental Management

Date: 29 July 96

Certification of PCB Clearance\*

A records search and on-site inspection indicate that this property has not been exposed to PCB materials or equipment.

Certified by: *James Campe*  
JAMES CAMPE, GS-12  
Environmental Engineer

Date: 3 July 96

Approved by: *Walter J. Donegan*  
WALTER J. DONEGAN  
Colonel, USAF  
Director, Environmental Management

Date: 29 July 96

### Certification of No Contamination

The property being acquired contains no known hazardous substances as that term is defined in the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601), as amended, or other contamination as Environmental Response, Compensation and Recovery Act of 1976, the implementing of Environmental Protection Agency regulations (40 CFR Parts 261, 262, 263 and 761), and the Federal Property Management Regulations (41 CFR Part 101/47). A complete search of agency files revealed that no hazardous substance has been stored for more than one year, known to have been released, or disposed of on the land being acquired.

Certified by: *James Campe*  
JAMES CAMPE, GS-12  
Environmental Engineer

Date: 3 July 96

Approved by: *Walter J. Donegan*  
WALTER J. DONEGAN  
Colonel, USAF  
Director, Environmental Management

Date: 29 July 96

Certification of Asbestos Clearance\*

A records search and on-site inspection indicate that this property has not been exposed to asbestos materials or equipment.

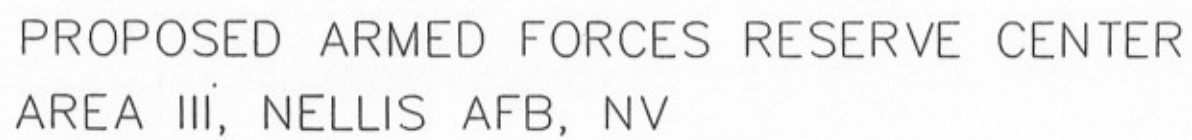
Certified by: *James Campe*  
JAMES CAMPE, GS-12  
Environmental Engineer

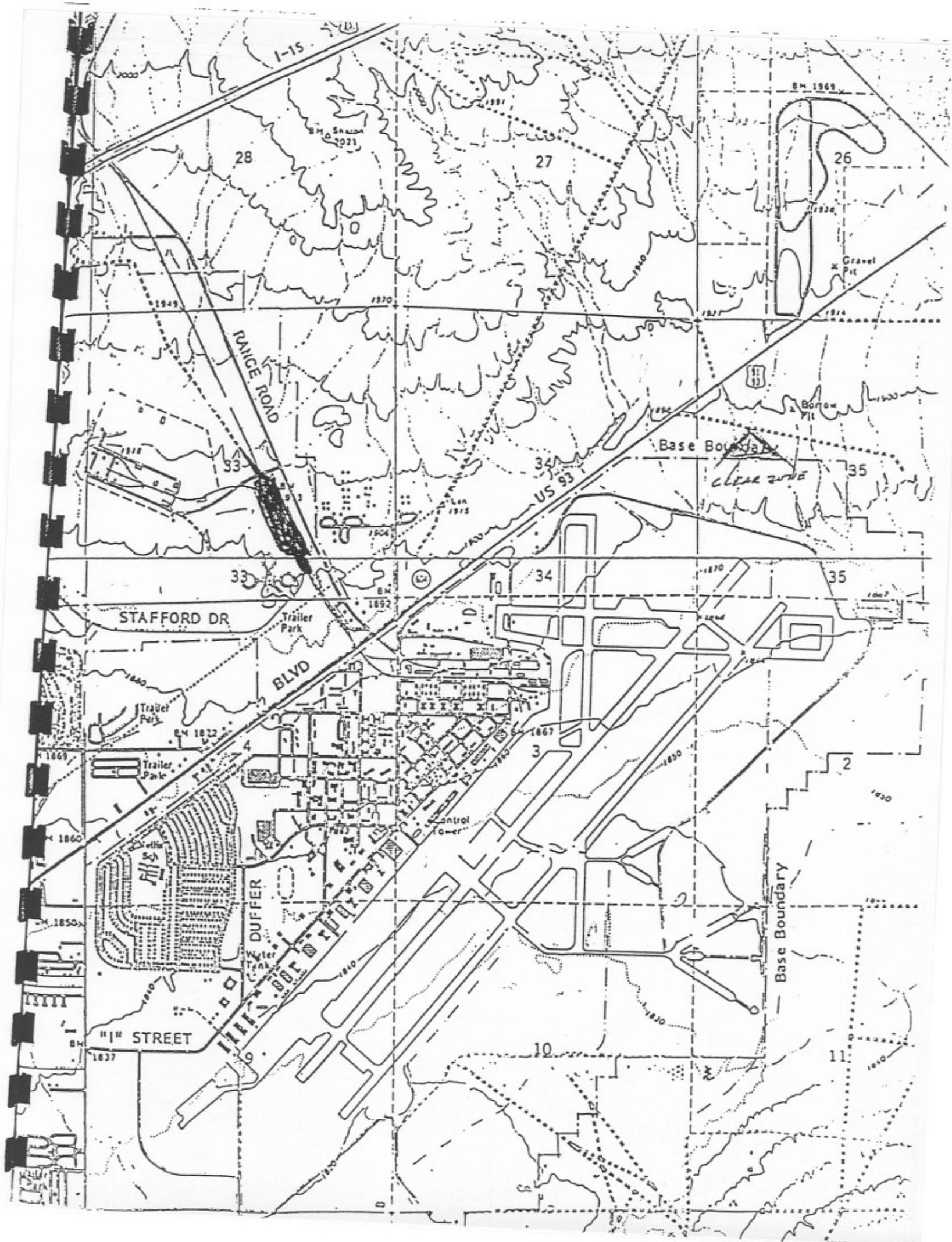
Date: 3 July 96

Approved by: *Walter J. Donegan*  
WALTER J. DONEGAN  
Colonel, USAF  
Director, Environmental Management

Date: 29 July 96









U.S. ARMED FORCES RESERVE CENTER  
Nellis AFB; Las Vegas, Nevada

Prepared for: 63rd RSC

APPENDIX C - SITE PHOTOGRAPH





DEPARTMENT OF THE ARMY  
HEADQUARTERS, 63D REGIONAL SUPPORT COMMAND  
PO Box 3001  
LOS ALAMITOS, CALIFORNIA 90720-1301

REPLY TO  
ATTENTION OF

AFRC-CCA-EN-P (405)

2 March 1998

MEMORANDUM FOR Department of the Air Force, 558th Civil Engineering Squadron (ACC)  
ATTN: 558 CES-CEER (Ms. Judy Pace), 6020 Beale Avenue,  
Nellis AFB, NV 89191-7260

SUBJECT: Request for Additional Land for Military Equipment Park (MEP) at Armed Forces Reserve Center, Nellis AFB.

1. References:

- a. Memorandum to the above, subject: SAB, dtd 23 Dec 97.
  - b. Phone conversation between MS. Judy Pace and the undersigned on or about 20 Jan 98, subject: SAB.
  - c. Phone conversation between Mr. Jim Campe, 558th Civil Engineering Squadron Environmental Section, and the undersigned on or about 28 Jan 98, subject: SAB.
2. Request the enclosed description of the existing permit, # DACA09-4-96-0039, be amended as follows:

BEGINNING at the intersection of the centerlines of Range Road and DRMO ;  
THENCE southeasterly along the centerline of said Range Road a distance of 1580 feet (existing is 1290 feet);  
THENCE, leaving said Range Road centerline, southwesterly and at right angles to last-said course, a distance of 450 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 840 feet (existing is 550 feet);  
THENCE at right angles to last-said course, southwesterly a distance of 440 feet;  
THENCE at right angles to last-said course, northwesterly a distance of 753 feet, more or less, to the centerline of the said DRMO Road;  
THENCE northeasterly along the centerline of said DRMO Road by various courses and distances, to the POINT OF BEGINNING;  
EXCEPTING THEREFROM so much thereof as may lie within the paved areas of Range Road and DRMO Road;  
and the aggregate area of said Parcel of Land, less the exception noted above, being about 24.4 acres of land, more or less (existing is 21.8).  
////////////////////////////////////END OF DESCRIPTION////////////////////////////////////



SUBJECT: Request for Additional Land for Military Equipment Park (MEP) at Armed Forces Reserve Center, Nellis AFB

3. The above changes will provide the necessary area to park all vehicles that belong to the units located at the facility (see enclosure 1).

4. We have contacted Cal-Nevada Petroleum Pipeline and spoke to determine if there were any objections to paving over the pipeline (see enclosure 2). They stated that there is no objection provided the following stipulations:

a. Cal-Nevada Petroleum Pipeline Engineers are provided with complete drawings and specifications to review and approve.

b. In the language of the permit it states that if the pipeline needs to be repaired, they will sawcut the pavement, excavate, backfill, and compact but will not be responsible for improvements (i.e. repaving).

5. POC for this action is the undersigned at (562) 795-1438.

Encls:  
As stated

  
MARK A. CUTLER  
Real Estate Specialist

CF:  
US Army Corps of Engineers, Nevada Project Office, ATTN: Ed Peterson



## **FINDING OF NO SIGNIFICANT IMPACT**

### **1.0 Name of the Action**

Armed Forces Reserve Center/Organizational Maintenance Shop (AFRC/OMS)

### **2.0 Description of the Proposed Action and Alternatives**

Construct and operate an Armed Forces Reserve Center/Organizational Maintenance Shop for the 63rd Regional Support Command (RSC). This facility, to be located in Area III of Nellis AFB, would provide operations and training facilities for the U.S. Army, U.S. Navy, and U.S. Marine Corps Reserves.

Four alternatives were considered in the Environmental Assessment (EA): the Proposed Action locating the AFRC/OMS on a 16.5-acre parcel in Area III, constructing a smaller 10-acre facility at the same intersection in Area III, building a 16.5-acre facility consisting of two separate operations spanning DRMO Road, and the no action alternative.

### **3.0 Summary of Environmental Impact**

#### **3.1 Air Quality**

The proposed action would have short-term negative impacts to air emissions during construction due primarily to the need to back-fill the proposed site with 130,000 cubic yards of fill materials. Air quality impacts would occur from Particulate Matter 10 (PM<sub>10</sub>) emissions (15 Tons) caused by the handling and placement of soil and carbon monoxide (CO) emissions (0.66 Tons) from vehicle operations related to excavation, transportation, and placement of the fill materials. Emissions are below de minimis levels, therefore, a formal conformity analysis is not required.

Long-term air quality impacts would primarily be a result of operation of the Heavy Equipment Transports (HETs) which are the largest equipment component at the AFRC/OMS facility. Operation of these vehicles exceed current Environmental Protection Agency (EPA) air emissions standards for PM<sub>10</sub> and NO<sub>x</sub>. The Department of the Army (DA) has a Memorandum of Understanding from the EPA exempting these vehicles from emission standards.

#### **3.2 Noise**

A short-term negative impact would result from heavy construction equipment involved in site work and facilities construction. This disturbance would be short-term and intermittent in nature and primarily confined to weekday daylight hours.

Long-term noise impacts exceed local noise ordinances but would be reduced to below 55 dBA (at Caffarelli Court and Family Campground) with the installation of noise attenuation walls.

#### **3.3 Water**

No surface water occurs at the site. Impacts to surface water runoff are considered positive by incorporating retention basins in the design. This would reduce the potential for surface water runoff during a flood event. The project has no direct impact to ground water and no net increase in water use is anticipated for this project.

### 3.4 Biological Resources:

No impact to biological resources are anticipated for this proposed action due to prior site excavation.

### 3.5 Land Use:

The proposed project is consistent with nearby industrial developments. However, the land use is also mixed with residential and recreation areas which would be affected by noise and emissions. Air Force personnel living in Caffarelli Court and personnel using the family camp grounds are located nearby the proposed location and would be affected by noise and air emissions.

### 3.6 Traffic:

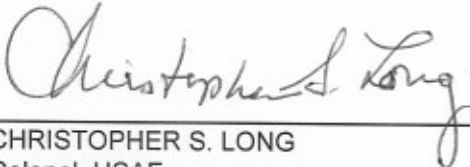
Relocation of the Reserve facility to Nellis AFB would have a beneficial impact to the Sahara Avenue area in Las Vegas with the reduction of 45 full time employees during normal week-days work-hours. Of greater importance, the proposed project would eliminate a week-end peak of 553 Reservists during summer drill periods. Traffic on Range Road at Nellis AFB would increase as a result of the relocation of the AFRC/OMS facility.


### 3.7 Cultural Resources:

No impact due to extensive disturbance at area as a result of prior site excavation.

## 4.0 Conclusion

The proposed action does not represent a major federal action with significant impacts to the human or natural environment, therefore an Environmental Impact Statement is not required. A Finding of No Significant Impact is thus warranted.

  
CHRISTOPHER S. LONG  
Colonel, USAF  
Vice Commander

  
Date



**FINAL**

**ENVIRONMENTAL ASSESSMENT**

**FOR THE PROPOSED**

**ARMED FORCES RESERVE CENTER/**

**ORGANIZATIONAL MAINTENANCE SHOP**

**AT NELLIS AIR FORCE BASE**

**AUGUST 1996**

**NOTE:** In late 1995, the 63rd Armed Forces Reserve Command (ARCOM) changed name to the 63rd Regional Support Command (RSC). For the purposes of this document, the titles are used interchangeably.

***DRAFT***

**ENVIRONMENTAL ASSESSMENT  
FOR THE PROPOSED  
ARMED FORCES RESERVE CENTER/  
ORGANIZATIONAL MAINTENANCE SHOP  
AT NELLIS AIR FORCE BASE**

**JULY 1996**

**This draft EA revises the Draft Environmental Assessment Dated December 1995. Revised changes are provided as Responses to Comments following the parent document.**

**NOTE: In late 1995, the 63rd Armed Forces Reserve Command (ARCOM) changed name to the 63rd Regional Support Command (RSC). For the purposes of this document, the titles are used interchangeably.**

***DRAFT***

**ENVIRONMENTAL ASSESSMENT**

**FOR THE PROPOSED**

**ARMED FORCES RESERVE CENTER/**

**ORGANIZATIONAL MAINTENANCE SHOP**

**AT**

**NELLIS AIR FORCE BASE**

**December 1995**

## **Executive Summary**

The U. S. Army Reserve, in conjunction with the U.S. Navy Reserve and the U.S. Marine Corps. Reserve, propose to construct and maintain an Armed Forces Reserve Center/Organizational Maintenance Shop (AFRC/OMS) facility on Nellis Air Force Base (AFB) property near Las Vegas, Nevada. Construction is proposed to start in fiscal year 1996 and to be completed in fiscal year 1997.

The current AFRC facilities, under the direction of the 63rd Armed Forces Reserve Command (ARCOM) has outgrown their existing facilities within the Las Vegas city limits, and cannot expand to meet current or future training and operational requirements for its 700 member contingent. This is due to a lack of suitable available real estate at this location. Nellis AFB has tentatively agreed to citing the proposed AFRC/OMS facility in Area III of Nellis AFB.

Four alternatives are presented for the planned AFRC/OMS project: the proposed action to construct a new AFRC/OMS facility on 16.5-acres of land at the intersection of Range Road and DRMO Road; construct a similar facility on a smaller (10-acre) parcel of land at the same intersection; construction of a new 16.5-acre facility spanning DRMO Road on the west side of Range Road, or no action.

The proposed action is to construct a new 16.5-acre facility, triangular in shape, at the intersection of Range Road and DRMO Road in Area III of Nellis AFB. The site would consist of three permanent structures: a 68,616 square ft (SF) training facility a 1,052 SF unheated storage facility, and a 14,775 SF maintenance facility. Additional site improvements would include a paved parking area of 15,607 square yards (SY) in the rear of the site for the AFRC contingent of heavy vehicles and equipment and a 9,142 SQ area for privately owned vehicles (POV).

Alternative No. 1 to the proposed action would be to construct a smaller facility at the same

intersection of Range Road and DRMO Road, compressing all operations into a 10-acre parcel. Buildings and parking areas would be similar in size to the proposed action. Selection of this alternative would require the relocation of two domestic water pipelines and pipeline easements crossing the ten acre parcel. This would require additional subsurface disturbance to the area and increase short term fugitive dust emissions in the area.

Alternative No. 2 would move the Organizational Maintenance Shop (OMS) and heavy equipment parking north of DRMO Road, further away from the Caffarelli Court and Family Campground area. All structures, parking, and open space would be the same as the proposed action. Table ES-J presents a comparison of impacts for each alternative.

The no action alternative would continue Reservist activities at their current operating location in downtown Las Vegas. This alternative would negatively impact the Reserves ability to meet their specific missions of providing well trained personnel for service in the event of war or national disaster and would continue to contribute to the increased traffic congestion in the downtown Las Vegas area. The following table further illustrates the impacts of each alternative considered in the development of the proposed project.



**Table ES-1**

**Summary and Comparison of Impacts of the Proposed Action and Alternatives**

Issues	Proposed Site	Alternative # 1	Alternative # 2	No Action
Air Quality	<p>Short-term - increase in PM<sub>10</sub> (15 tons) and CO (0.66Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The Department of the Army (DA ) has a Memorandum of Understanding (MOU) (Oct88) exempting vehicles.</p>	<p>Short-term - increase in PM<sub>10</sub> (10 Tons) and CO (.50 Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The DA has a MOU (Oct88) exempting vehicle.</p>	<p>Short-term - increase in PM<sub>10</sub> (15 Tons) and CO (0.66 Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The DA has MOU (Oct88) exempting vehicles.</p>	No Impact
Noise	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operations of the HET vehicles in expected numbers would violate local noise ordinances for land use. A noise wall would be required to reduce noise impact to Caffarelli Court to less than 55 dBA.</p>	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operations of the HET vehicles in expected numbers would violate local noise ordinances for land use. A noise wall would be required to reduce noise impact to Caffarelli Court to less than 55 dBA.</p>	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operation of the HET vehicles in expected numbers would violate local noise ordinances at fence line. Impact to Caffarelli Court would be reduced significantly .</p>	No Impact

Water Use	Short-term- use of water for dust control and by construction workers provided by sub-contractor Long-term - Full-time staff -136,000 Gal/Mo. Reservists - 313,600 Gal/2-week period- No significant impact.	Short-term - use of water for dust control and by construction workers provided by sub-contractor. Long-term - Full-time staff- 136,000 Gal/Mo. Reservists- 313,600 Gal/2- week period - No significant impact.	Short-term - use of water for dust control and by construction workers provided by sub-contractor. Long-term -Full-time staff- 136,000 Gal/Mo. Reservists - 313,600 Gal/2- week period - No significant impact.	No Impact
Biology	No Impact	No Impact	No Impact	No Impact
Land Use	Residential/Recreational/Industrial Short-term - Temporary increase in construction personnel Long-term - Potential conflict with Base Comprehensive Plan	Residential/Recreational/Industrial Short-term - Temporary increase in construction personnel. Long-term - Less impact than the proposed action but still inconsistent with Base Comprehensive Plan.	Residential/Recreational/Industrial. Short-term - Temporary increase in construction personnel Long-term - Acceptable use of Base property.	Residential/Commercial
Cultural Resources	No Impact	No Impact	No Impact	No Impact
Hazardous Materials Management	Short-term - No impact Long-term - HAZMART use required- No impact	Short-term - No impact Long-term - HAZMART use required. No impact	Short-term - No impact Long-term - HAZMART use required-No impact	No Impact
Hazardous Waste Mgmt	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact.	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact	No Impact
Solid Waste Management	Little solid waste. Uses existing Base contractors. No impact	Little solid waste. Uses existing Base contractors. No impact.	Little solid waste. Uses existing Base contractors. No impact.	No Impact

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## INTRODUCTION

In the spring of 1993, representatives from the United States (U.S.) Army approached Nellis Air Force Base (AFB) about the potential for constructing an Armed Forces Reserve Center and Organizational Maintenance Shop (AFRC/OMS) at Nellis AFB, near Las Vegas, Nevada. The existing Reserve facilities, located at the southeastern edge of the Las Vegas city limits, were built for the U.S. Army, the U.S. Navy, and the U.S. Marine Corps Reserves in the early 1960s. It is overcrowded and cannot meet operational requirements. The lack of sufficient, suitable real estate for expansion in the nearby area further contributes to the overcrowded condition.

Discussions with Nellis AFB have identified a proposed construction site for the AFRC/OMS facility and two possible action alternatives on Base property. A 16.5-acre parcel has been identified as a potential site in Area III of Nellis AFB that would satisfy the needs of the proposed facility. The planned facility would serve as the base of operations for approximately 700 Reservists and consist of three permanent buildings and parking for personnel and military vehicles. The purpose of the proposed action is to construct a new AFRC/OMS that would fulfill the operational maintenance and training needs of the three Reserve organizations and allow each Branch of the military to fulfill their mission objectives of providing well trained personnel for rapid deployment in the event of war or national emergency. If approved, construction would be expected to start on the proposed facility in fiscal year 1996 and be completed in fiscal year 1997. This environmental assessment (EA) evaluates the impacts of the proposed AFRC/OMS facility, two action alternative sites, and no action.

The proposed project has the potential to impact air quality, noise, water resources (water usage and surface water discharge), biological resources, land use, traffic, cultural resources, and hazardous waste. Resources that are not expected to be impacted are: floodplains, grazing, minerals, and socioeconomics. Because these latter resources are not

expected to be impacted, they are not discussed in the EA.



## 1.0 PURPOSE OF AND NEED FOR ACTION

The U.S. Army Reserve, in conjunction with the U.S. Navy Reserve and the U.S. Marine Corps Reserve, propose to construct and maintain an Armed Forces Reserve Center/Organizational Maintenance Shop (AFRC/OMS) on Nellis Air Force Base (AFB) property. Construction is proposed to start in fiscal year 1996 and to be completed in fiscal year 1997.

This environmental assessment (EA) was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190), and the implementing regulations of the President's Council on Environmental Quality (CEQ) (40 CFR Parts 1500 through 1508), which require Federal agencies to analyze the potential environmental impacts of their proposed actions and alternatives to these actions. Air Force Instruction (AFI) 32-7061 implements NEPA and CEQ regulations for the Air Force. Details of the environmental regulations guiding the Air Force's preparation of NEPA documents are presented in 32 CFR (Chapter VII) Part 989. Further, the U. S. Air Force "Handbook to Environmental Quality" provides guidance in achieving Air Force environmental goals. Army Regulations on the Environmental Effects of Army Actions (AR200-1 and AR200-2) and Navy/Marine Corps "Procedures for Implementing the National Environmental Policy Act", 32 CFR (Chapter VII) Part 775, were all considered in the preparation of this EA. As a general rule, since the proposed facility would be located on Air Force property, Air Force environmental regulations would be in effect. The exception to this rule is if the other service Branches impose more stringent environmental control regulations; in which case, their regulations would take precedence. The individual services Branches will be responsible for compliance with all permits and licenses issued in their names.

### 1.1 Background

The U.S. Army Reserve, the U.S. Navy Reserve, and the U.S. Marine Corps Reserve, under the direction of the 63rd Regional Support Command (RSC), currently

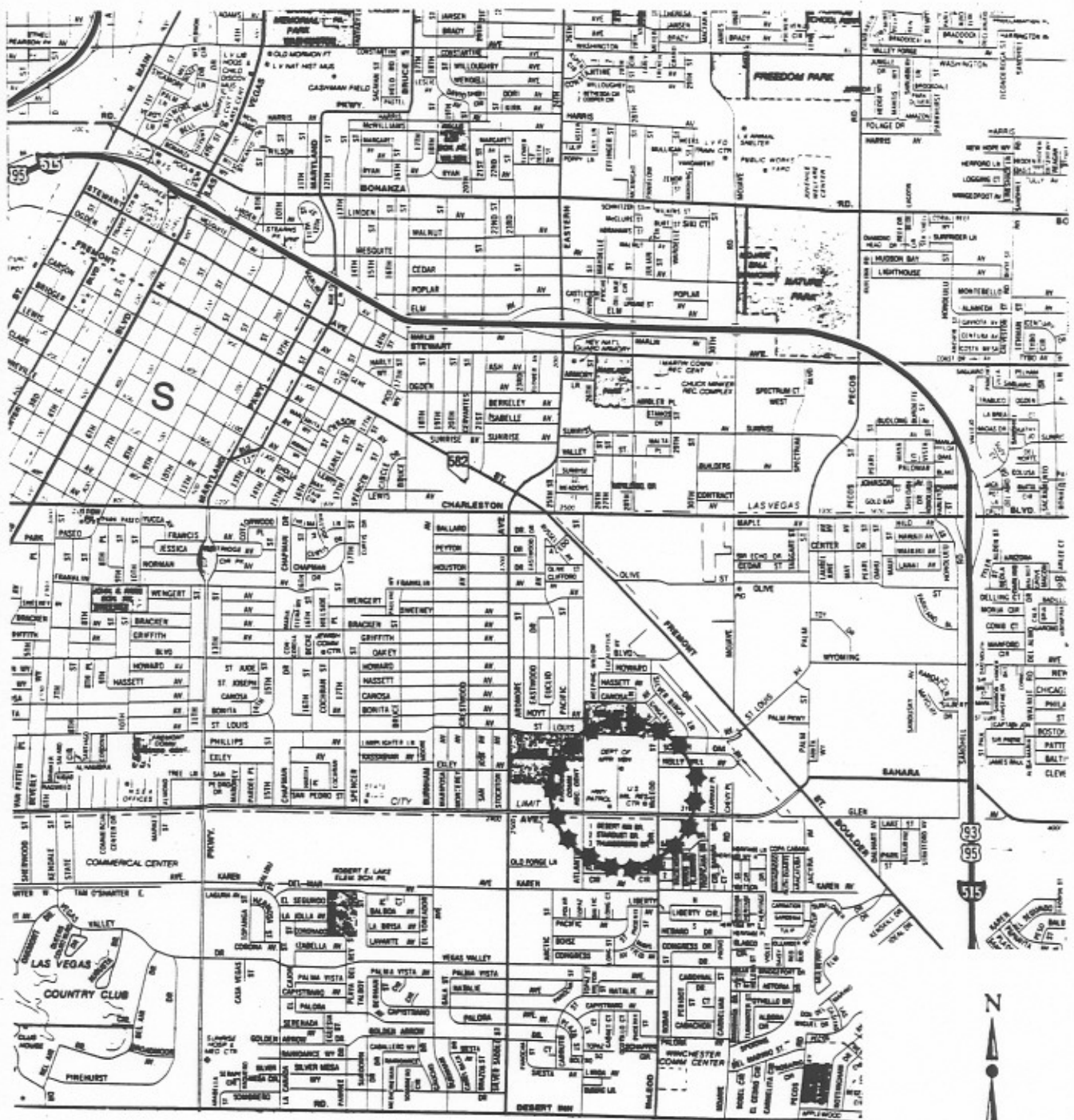
conduct military reserve activities at their existing facility at the southeastern edge of the Las Vegas, Nevada, city limits. As illustrated in figure 1-1, the Ryland G. Taylor AFRC/OMS facility is located on Sahara Avenue, one of the busiest east-west arterial roads in the Las Vegas area. The facility is overcrowded, outdated, and cannot meet the current or future training and operational requirements of the three military Branches.

The existing AFRC Reserve facilities are aging and in need of significant improvements, are inadequate to meet the proposed mission of the 63rd ARCOM, and lack sufficient space to store the number of Heavy Equipment Transport (HET) vehicles planned for the facility. Undeveloped land does exist to the north of the existing AFRC site, but the area is surrounded by single family residences on the north and east sides. Two parks (Miller Park and Jaycee Park) are also in the immediate area. Figure 1-2 illustrates the composition of buildings on the same block as the existing AFRC facility. In addition to the buildings illustrated on figure 1-2, the state of Nevada Bradley Building is located on the southwest corner of the block. Also, the State of Nevada, Department of Agriculture, Weights and Measures Division occupies facilities on the same block, along McLeod St. The remainder of Sahara Avenue in the general area of the AFRC/OMS facility is comprised of retail shopping and automotive dealerships.

The Army Reserve approached Nellis AFB about the possibilities of constructing a new AFRC/OMS on Nellis AFB property. Nellis AFB personnel agreed to the potential of locating the AFRC/OMS facility on Nellis AFB property, thus creating the foundation and need for the preparation of this EA.

Nellis AFB is located in the Great Basin area of Southwestern Nevada, approximately 10 miles northwest of Lake Mead. The city of Las Vegas lies approximately 8 miles southwest of the Base, with the city of North Las Vegas lying between the Base and Las Vegas. Figure 1-3 shows the general location of Nellis AFB.

Nellis AFB land holdings consist of approximately 18 square miles subdivided into three



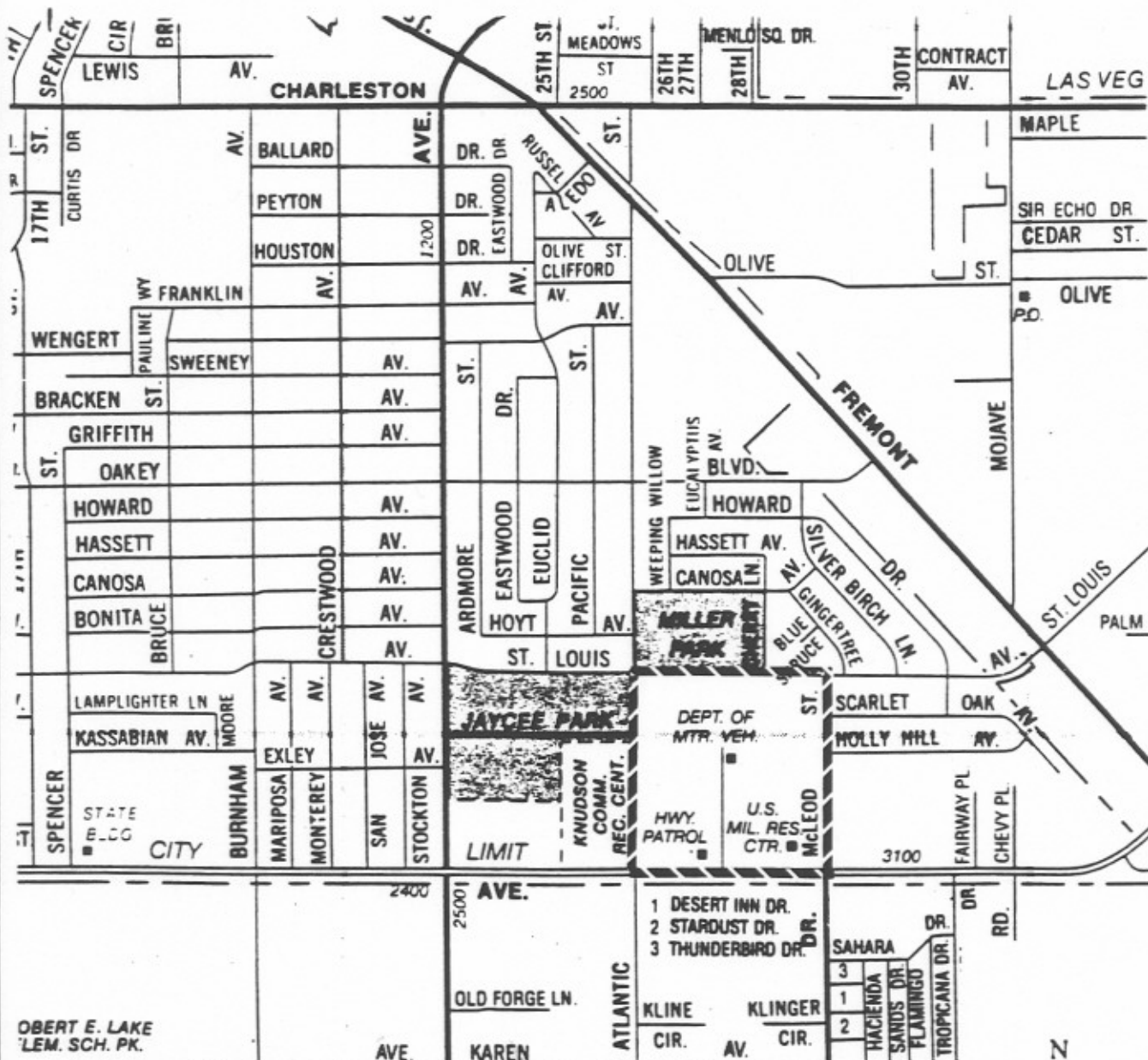
★ Existing AFRC/OMS Facilities Area



## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 1-1, General Location of Ryland G. Taylor AFRC/OMS Facility

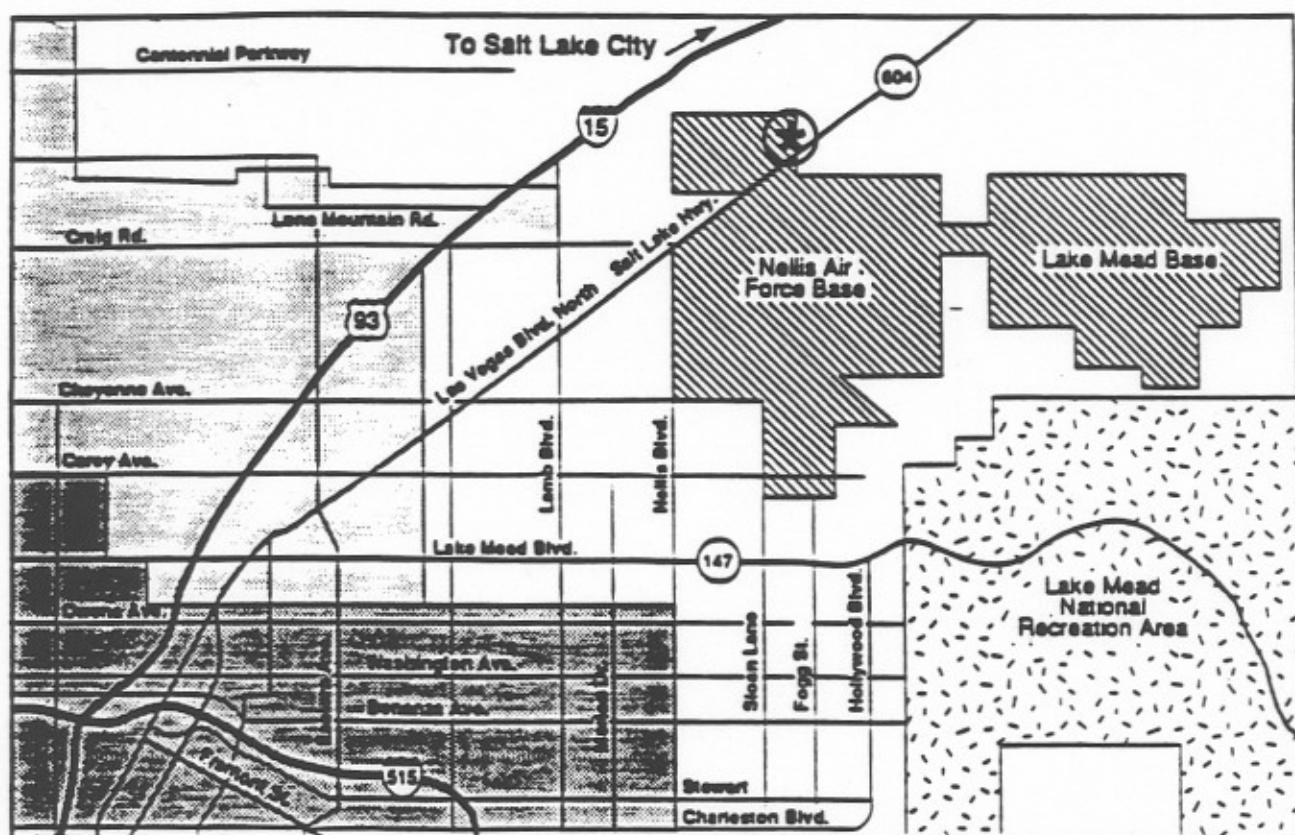


## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 1-2, Composition of Buildings on Block with AFRC/OMS Facility





**LEGEND**

- North Las Vegas
- Las Vegas
- Project Study Area



Map Not to Scale

## Location Map



Vicinity Map

## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 1-3, General Area Map



distinct areas. Area I, the Nellis Main Base; Area II, the Munitions Area,; and Area III, which consists of housing, recreation, tank farms, and other military operations. The proposed action and the alternatives evaluated are all located in Area III, within the boundaries of Section 33, Township 19 South, Range 62 East. Figure 1-4 identifies the specific location of Area III.

## **1.2 Need for the Proposed Action**

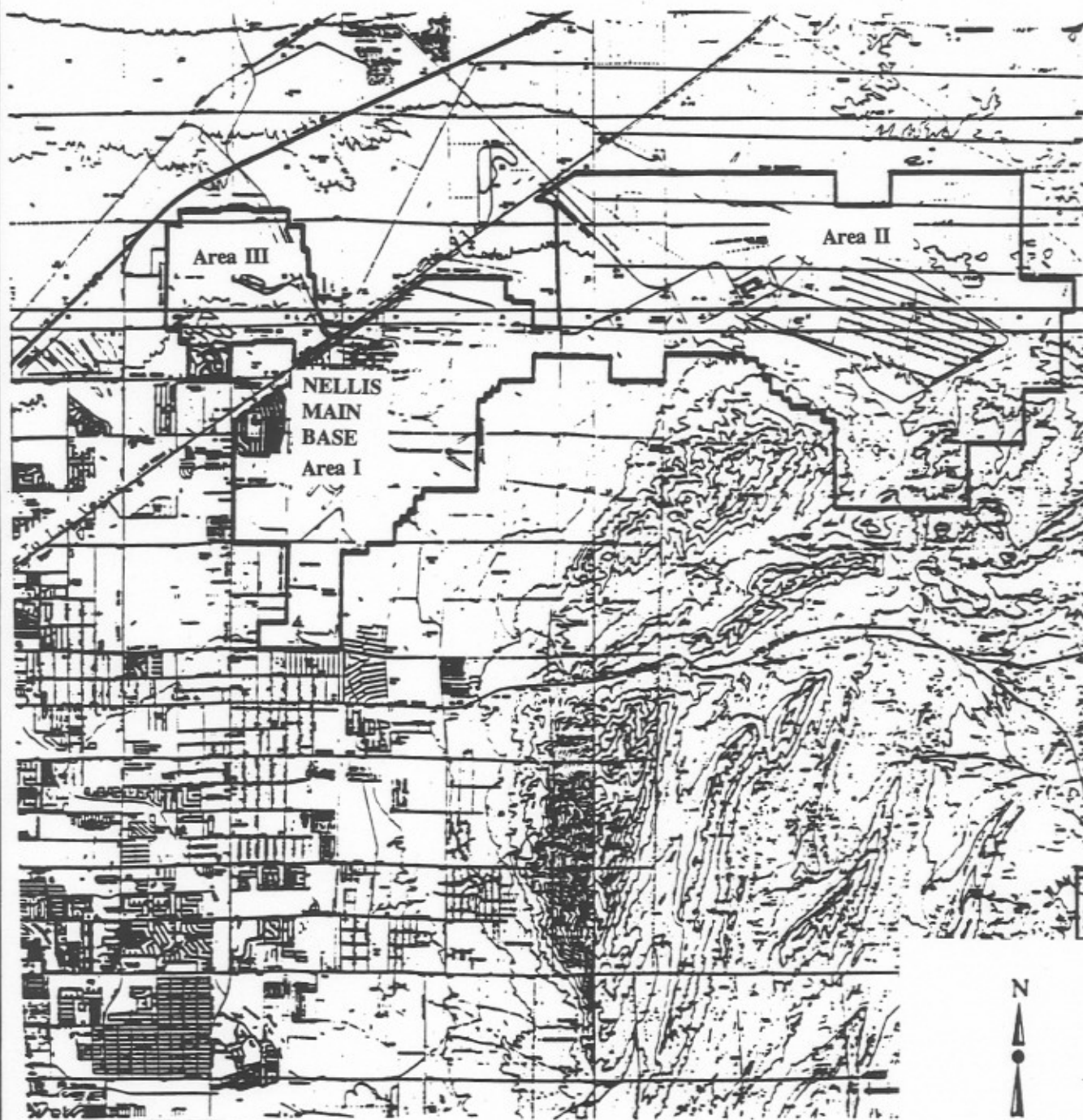
The proposed AFRC/OMS facility would provide the 63rd ARCOM, Navy, and Marines with sufficient space and facilities to administer Reserve activities, conduct training, and provide individual/unit storage for equipment and stores to support a 700 member Reserve contingent. The facility would eliminate overcrowding at the current Taylor facility and reduce weekend traffic congestion on a busy section of Sahara Avenue. Recorded traffic volumes on Sahara Avenue to the west of the existing site indicate an annual average daily traffic count of 52,800 vehicles in 1993 (NDOT, 1993)

## **1.3 Decision to be Made**

Three action alternatives were examined as potential alternatives for the new facilities. The decision to be made is whether to (1) construct and operate a new Reserve facility of approximately 16.5-acres at the proposed site, south of DRMO Road, (2) construct and operate a smaller facility in the same area consisting of only 10 acres, (3) construct and operate a new Reserve facility of approximately 16.5-acres spanning both sides of DRMO Road, or (4) take no action.

## **1.4 Environmental Issues and Scope of Analysis**

This EA examines the potential consequences of constructing a new AFRC/OMS facility on Nellis AFB property in an unincorporated portion of Clark County, Nevada. The potential impacts to air quality, noise, water resources, biological resources, land use, traffic,



**U.S. ARMED FORCES RESERVE CENTER**  
**Nellis AFB, Las Vegas, Nevada**

Prepared for: 63rd ARCOM

Figure 1-4, Nellis AFB Site Map

cultural resources, and hazardous wastes are evaluated under each action alternative. The impacts of taking no action are also reviewed as a part of this EA.

Several resource types would not be impacted as part of the proposed action or no action alternative. These resources are wetlands, floodplains, grazing, minerals, and socioeconomics.

### **1.5 Authorizing Actions**

Compliance with the regulatory requirements for the construction and operation of the AFRC/OMS facility is a combined effort of Nellis AFB, the U.S. Army Corps of Engineers, and the Armed Forces Reserve Command. A final decision on the need for specific permits would be based on consultation with each responsible regulatory agency or permitting agency.

## **2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action**

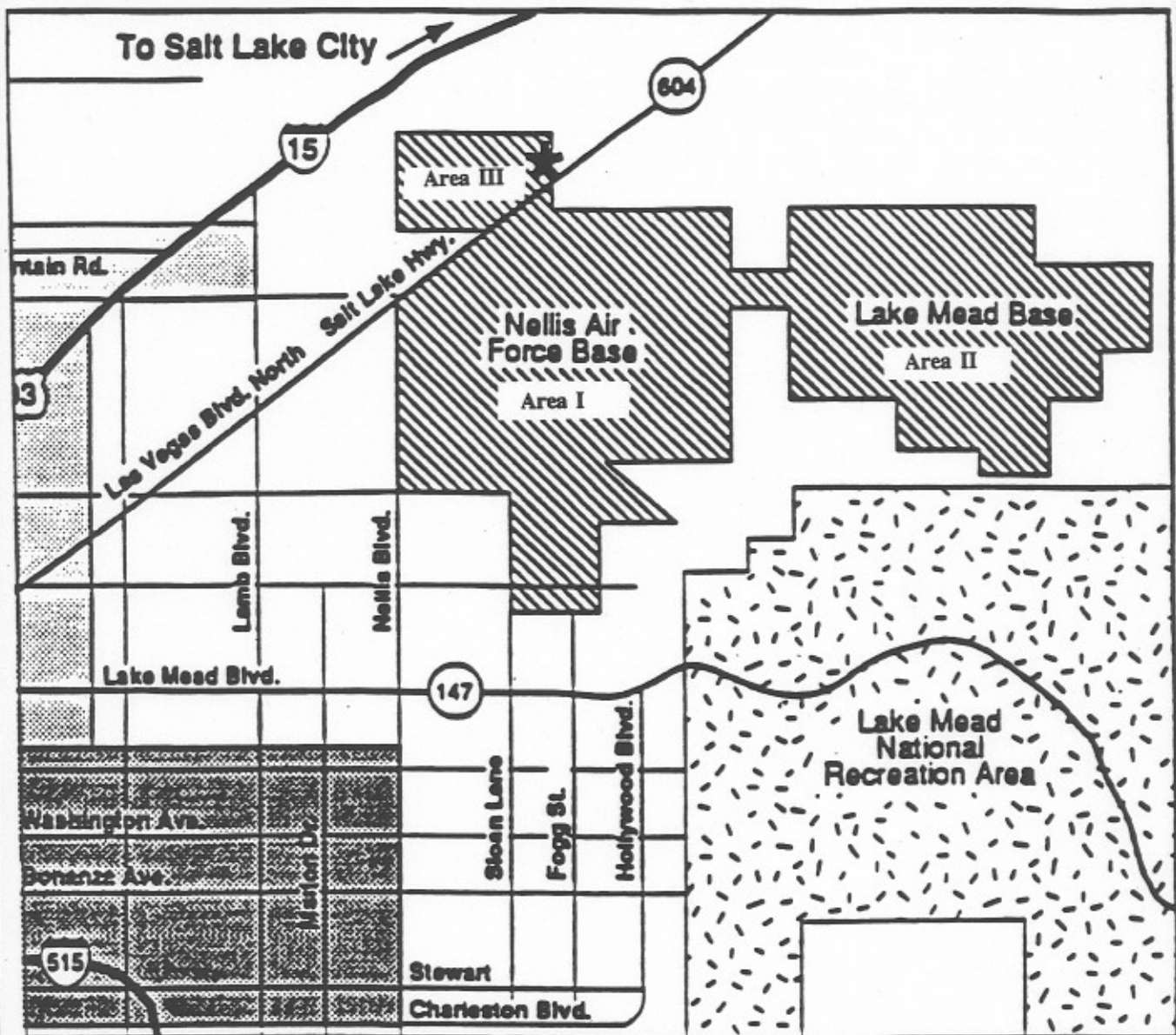
The United States Army Reserve, in conjunction with the U.S. Navy Reserve, and the U.S. Marine Corps Reserve, proposes to construct and operate a combined AFRC/OMS training facility at Nellis AFB, Las Vegas, Nevada. The entire facility would be built on a 16.5-acre site at the intersection of Range Road and DRMO Road. This parcel is roughly triangular in shape with a 1600-foot frontage along Range Road and a 1200-foot frontage along DRMO Road. Figure 2-1 illustrates the location of the project.

Three distinct Armed Forces Reserve organizations would occupy the AFRC/OMS facility; the Army Reserves, the Navy Reserves, and the Marine Corps Reserves. The single largest user, both in terms of personnel and space, would be the U.S. Army's 257th Transport Company. This Company maintains and stores vehicles for the transport of tanks and other pieces of large equipment. Table 2-1 provides the equipment allowance list for the Las Vegas unit.

Two Army Reserve Units are the U.S. Army's contingent of the AFRC/OMS. The U.S. Army mission requirements dictate the minimum space requirements for a new AFRC/OMS facility. The primary vehicles driving the space requirements are the Army's Heavy Equipment Transporter (HET) vehicles and trailers utilized for hauling the M1A1 main battle tank. Figure 2-2 illustrates the vehicle package. The overall size of the HET vehicle and trailer as a unit is 82 feet long by 8.5 feet wide. These dimensions are with the HET's side-view mirrors collapsed. Extension of the mirrors adds approximately four feet to the width of the vehicle.

The U.S. Navy plans to relocate six U.S. Navy Reserve units to the AFRC/OMS facility. The Naval units are the: 1) Shore Intermediate Maintenance Activity, San Diego; 2) Forth Marine Division 2/23 Detachment F.; 3) Naval Hospital, Camp Pendleton D519; 4)





Map Not to Scale

## Location Map

### LEGEND

- North Las Vegas
- Las Vegas
- Project Study Area



Las Vegas

Vicinity Map

## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 2-1, Project Study Area



Table 2-1  
U.S. Army Reserve Equipment Allowance

Description	Requisition	Authorized
Charger Radiac Detect	5	5
Compressor Unit	1	1
Electric Transfer Keying	5	5
Generator Set: DED Skid Mounted	1	1
Generator Set: DED Skid Mounted	1	1
Generator Set: DED Skid Mounted	1	1
Generator Set: Diesel Engine	1	1
Installation Kit, MK	4	4
Installation Kit, MK-1967	1	1
Installation Kit, MK-	10	10
Installation Kit, MK-	1	1
Installation Kit, MK-2146	5	5
Installation Kit, MK-2147	11	11
Installation Kit, MK-2148	28	28
Heater, duct type PTB	4	4
Hose Assembly, Nonmet	16	16
Installation Kit, MK-1443	29	29
Kitchen Field Trailer	1	1
Launcher, Grenade	4	4
Light Set	1	1
Machine Gun caliber	12	12
Machine Gun 7.52 mill	4	4
Mask CBR, Protective	299	253
Multimeter Digital	12	12
Mount Tripod Machine	12	12
Mount Tripod Machine	4	4
Mounter and Demounter	4	4
Net Control Device	1	1
Night Vision Sight CR	6	6
Night Vision Sight IN	2	2
Night Vision Goggle	239	239
Power Supply	1	1
Pistol 9mm Automatic	1	1

Table 2-1 (Cont.)  
U. S. Army Reserve Equipment Allowance

Description	Requisition	Authorized
Radiometer	16	16
Radio Set	43	43
Radio Set	1	1
Radio Set Control Grd	1	1
Range Outfit Field	2	2
Radiac Set	6	6
Radiac Set	1	1
Reeling machine Cable	1	1
Reeling machine Cable	11	11
Radio Test Set	1	1
Rifle 5.56 mm	298	252
Speech Security Equipment	45	45
Shop Set	4	4
Sanitation Center	1	1
Semi Trailer Flatbed	2	2
Semi Trailer Van	1	1
Shop Equipment	1	1
Tone Signalling Adapter	1	1
Tool Outfit Hydraulic	1	1
Telephone wire	2	2
Shop Set Spare Parts	2	2
Shop Set Spare Parts	1	1
Tape Reader General	1	1
Telephone Digital	2	2
Truck Utility Cargo	11	11
Truck Wrecker	4	4
Truck Tank Fuel	4	4
Switchboard Telephone	1	1
Telephone Set, TA-312	10	10
Tent, Frame Type	4	4
Power Supply Vehicle	45	45
Tool Kit, Automotive	1	1
Tool Kit, General Mechanical	7	7
Tool Kit, General Mechanical	29	29
Tool Kit, Carpenters	1	1

Table 2-1 (Cont.)  
U.S. Army Reserve Equipment Allowance

Description	Requisition	Authorization
Tool Kit, Electric	1	1
Weld Shop Trailer	1	1
Tool Kit, Small Arms	1	1
Tool Kit, Welder	2	2
Wireline Adapter	2	2
Torch Outfit, Cutting	1	1
Towbar Motor Vehicle	12	12
Trailer Cargo	2	2
Trailer Cargo	5	5
Trailer Tank Water	2	2
Truck Cargo	4	4
Truck Cargo	1	1
Truck Cargo	2	2
Truck Tractor	2	2
Truck Van Expansible	1	1
Truck Van Shop	1	1
Watch Wrist	29	24
Wrench Impact	1	1
Wrench Set Socket	1	1
Semitrailer Lowbed	96	96
Tent, Extendible	1	1
Truck Tractor Heavy	96	96

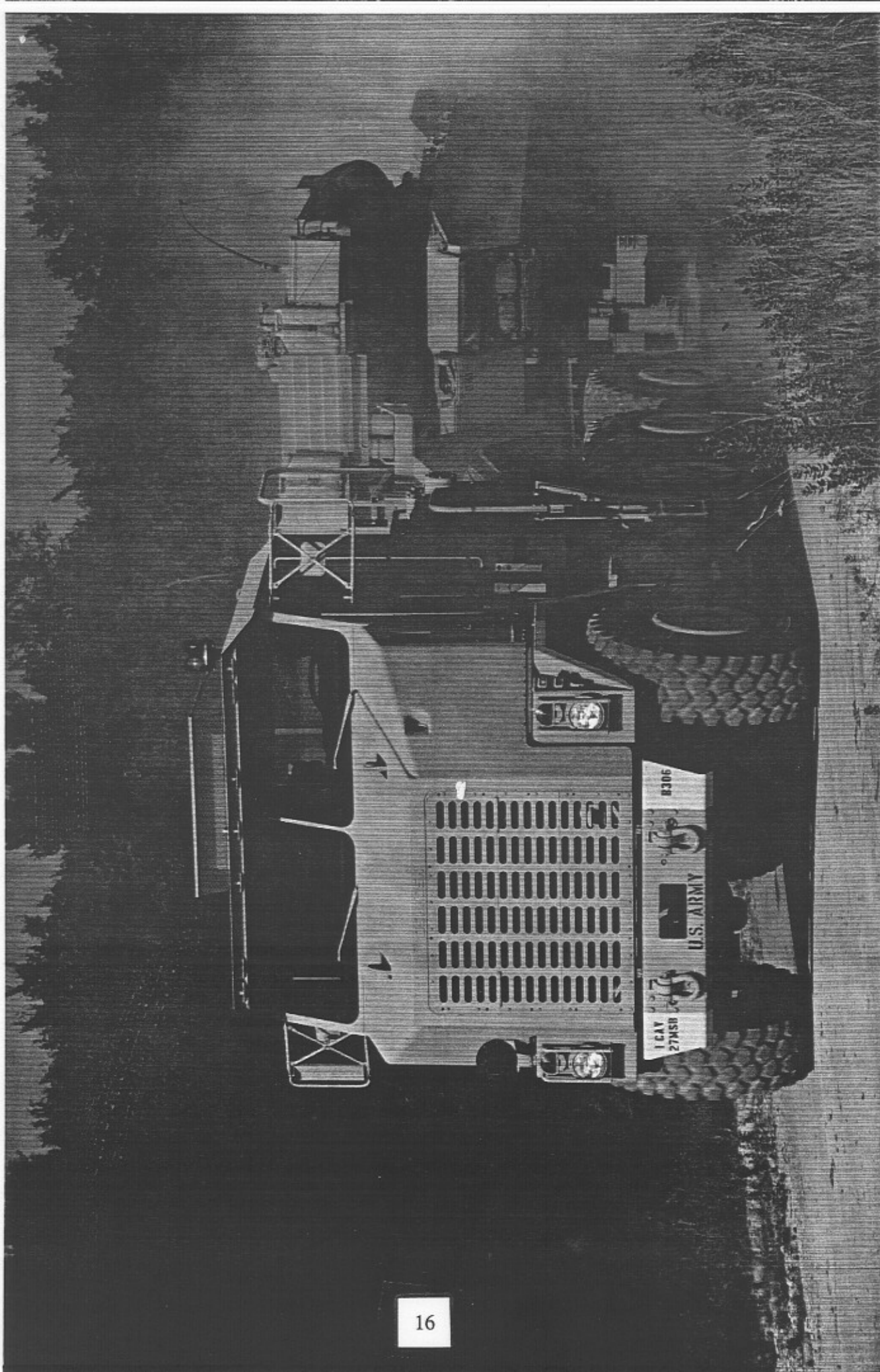


Figure 2-2, Heavy Equipment Transporter

Naval Hospital, Camp Pendleton P1917; 5) Administration NMCB, Detachment 0817; and 6) the Voluntary Training Unit 1903 G. The Navy's mission is to provide trained units and qualified personnel for active duty in the event of war or national disaster when authorized by law. Specific functions: to command and train assigned Naval Reserve forces; to ensure maximum readiness of Reservists in anticipation of rapid mobilization in the event of war or national emergency; and to serve as field manager for the Commander of Naval Reserve Readiness Command, Region 20, for assigned facilities, equipment and manpower resources. All units are currently operating out of the existing AFRC center in southeast Las Vegas.

The U. S. Marine Corps would locate two Marine Corps Reserve units in the proposed AFRC/OMS facility. The Marine Corps Reserve units would consist of relocating the existing Infantry unit from the Taylor AFRC/OMS facility and creating a new Motor Transport Unit. The new Motor Transport unit would be for the western United States, established from components of existing Motor Transport units in the eastern U. S. Its purpose is to provide motor transport and maintenance training in support of the Marine Corps Twentynine Palms operations. Table 2-2 identifies the type of equipment that typically would be found in a Motor Transport unit.

The proposed AFRC/OMS facility would include administrative areas, classrooms, library, learning center, assembly hall, arms vaults, woodworking shop, kitchen, medical examination rooms, medical storage, physical readiness area, locker rooms, individual/unit storage functions, vehicle repair bays, military equipment parking (MEP), and privately owned vehicle (POV) parking. The facility layout would be designed to maximize the existing project site contour by utilizing portions of the already excavated areas for retention ponds, while, at the same time, avoiding the existing water pipelines crossing the property. The Reserve center is sized to train approximately 700 Reserve members. A full-time staff of approximately 45 people would operate the facility during normal business hours.



Table 2-2

## U.S. Marine Corps. Equipment Allowance List

Description	Quantity
Hummer Motor Vehciles	7
Sixcon Fuel Pumps	2
Sixcon Fuel Tanks (600gal.)	4
DCC 353 Welder	1
MK48 Diesel Power Units	8
Assorted Trailers for Power Units	8
5-Ton Diesel Trucks	7
Water Trailer (400 gal.)	1
2-1/2 Ton Trailers	2

As stated earlier, the facility would be occupied by two U.S. Army Reserve units, six U.S. Navy Reserve units, and two U.S. Marine Corps Reserve units. Reserve meetings are normally conducted one or two nights per week and on weekends. The facility would require the construction of three permanent buildings. These include a 68,619 square foot (SF) two-story facility having an approximate foot print of 46,000 SF, a 1,152 SF unheated storage facility, and a 14,755 SF maintenance facility. Further, a 15,607 square yard (SY) area would be prepared for MEP (truck and trailer parking plus access) and 9,142 SY for POV parking, consisting of approximately 200 parking spaces. Figure 2-3 illustrates a conceptual design of the proposed AFRC/OMS facility. Figure 2-4 is a picture of the proposed site as it currently appears, looking south along DRMO Road.

Staffing and operations conducted by each Service Branch differ in numbers and complexity. Table 2-3 illustrates the level of personnel planned to be on site during weekdays and weekends. The U.S. Navy would have the largest weekday staff, estimated to be approximately 30 people. The U.S. Marine Corps anticipates a full-time weekday staff of 7 people, while the U.S. Army is planning for 8 full time staff members. The weekday staff would work normal business hours.

Reserve operations also vary by Branch of the Service. The U.S. Army anticipates that the facility would be used by up to 20 people one night per week. Reservists would meet three weekends per month, consisting of approximately 233 service personnel. Once each month, approximately 24 of the HET vehicles would be operating at the same time as a part of U.S. Army training and maintenance exercises.

The Navy Reserves would be on site two weekends per month. Approximately 50-60 people would participate in weekend drills. Once or twice a year, a maximum of 260 personnel would be on site for a weekend period.

The Marine Corps Reserves anticipate 40-60 Reservists one weekend per month. These same Reservists would go into the field off of the facility for two weeks once each year.





**U.S. ARMED FORCES RESERVE CENTER  
Nellis AFB, Las Vegas, Nevada**

Prepared for: 63rd ARCOM

**Figure 2-4 Proposed Site, Current Condition**

Table 2-3

## AFRC/OMS Staffing

Organization	Weekday	Weekend Peak*
U.S. Army Reserves	50	233
U.S. Navy Reserves	8	260
U.S. Marine Corps. Reserves	<u>7</u>	<u>60</u>
	65	553

\* Peak personnel during summer drills. Not all in the field at the same time.



Specific maintenance operations to be conducted by each Branch of the Service varies to a great degree. The U.S. Army would train on and maintain all stationed Army vehicles conducting operations ranging from oil changes to engine overhaul.

## **2.2 Alternatives to the Proposed Action**

Two viable action alternative sites were identified in Area III of Nellis AFB as potential candidate sites besides the proposed action site. Several criteria were used to determine the feasibility and reasonableness of the alternative sites for the proposed Reserve facility and to compare their suitability to the proposed action site. These criteria, and the alternatives considered, are shown on Table 2-4.

### **2.2.1 Alternative No. 1: Range Road/DRMO Road 10-acre site.**

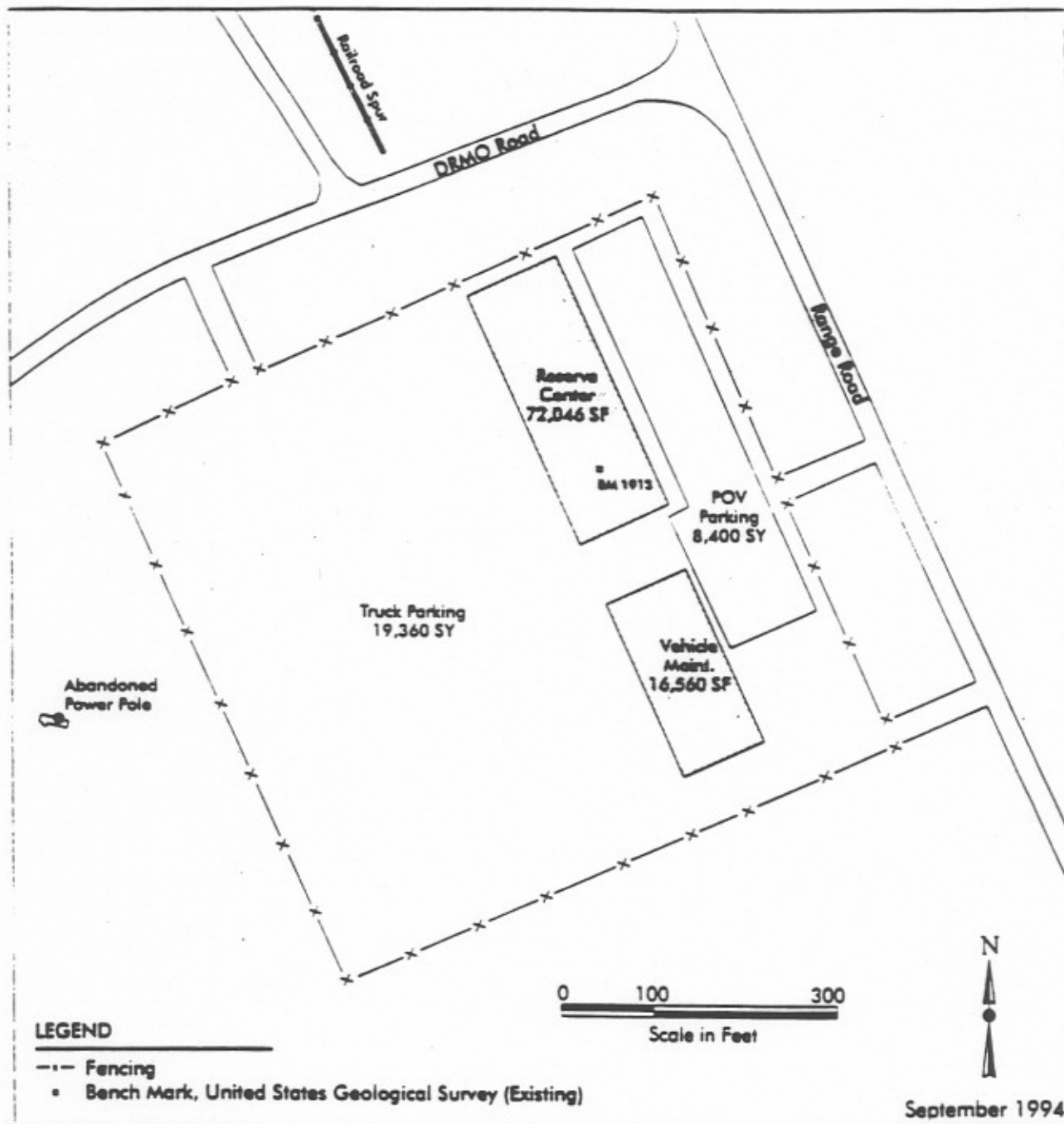
Under this alternative, the AFRC/OMS facilities would be built on a 10-acre parcel of land at the same intersection of Range Road and DRMO Road. Dimensions for this parcel are approximately 660' x 660'. The facility would require the construction of three permanent buildings. These include a 68,619 SF two-story training facility having an approximate foot print on the site of 46,000 SF, a 1,152 SF unheated storage facility, and 14,755 SF maintenance facility. Further, a 15,607 SY area would be prepared for MEP (truck parking) and 9,142 SY for POV parking. The facility would be designed to house the same number of reservists and store similar quantities of vehicles, equipment and operating facilities as the proposed action. Figure 2-5 shows a conceptual design of alternative No. 1.

### **2.2.2 Alternative No. 2: North of DRMO Road**

A second alternative to the proposed action would be to separate the training operations from the maintenance facility. The training facility would be constructed identical to the proposed action at the intersection of DRMO Road and Range Road, on the south side of DRMO

Table 2-4  
Site Selection Criteria

Selection Criteria	Proposed Action	Alternative No. 1	Alternative No. 2	No Action
Is Air Quality Impacted	Yes	Yes	Yes	None
Is Noise a Factor	Yes	Yes	No	None
Is Water Quality an Issue	No	No	No	None
Is Biology an Issue	No	No	No	None
Is Land Use Impacted	Yes	Yes	Yes	None
Are Cultural Resources Affected	None	None	None	None
Is Hazardous Materials Management Required	Yes	Yes	Yes	No Impact
Is Hazardous Waste Management Issue	Yes	Yes	Yes	No Impact
Is Recycling Required	Yes	Yes	Yes	No Impact
Is Solid Waste Management Required	Yes	Yes	Yes	No Impact



## Site Map (Conceptual Layout)



### U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 2-5 Alternative No. 1 Site Conceptual Design

Road. The site would occupy approximately 10 acres and would consist of a 68,619 SF two-story training facility having a footprint of approximately 46,000 SF and a 1,152 SF unheated storage facility. A 9,142 SY area for POV parking would also be a part of this site.

The OMS and MEP would be constructed north of DRMO Road, on approximately 6.5 acres of land between Range Road and the Railroad tracks to the west. The maintenance building would consist of approximately 14,755 SF and the MEP would be approximately 15,607 SY. These facilities would be designed to house the same number of vehicles, equipment, and operating facilities as the proposed action. Figure 2-6 illustrates the location of the OMS facility north of DRMO Road.

### **2.2.3 No Action**

Under this alternative, the U.S. Army Reserve, the U.S. Navy Reserve, and the U.S. Marine Corps Reserve would continue to use the same units that they are currently occupying thereby contributing further to the existing overcrowded operating conditions of the Reserve Units and continue to negatively impact traffic in southeastern Las Vegas. Plans for the formation of two new service units (one Army and one Marine) would not be possible, thereby adversely impacting two Branches of the military in carrying out their respective missions.

## **2.3 Comparison of Proposed Actions and Alternatives**

A total of three action alternative sites were selected and evaluated for the proposed AFRC/OMS facility in the Las Vegas area: the proposed action site and two alternatives. All sites are located within Area III of Nellis AFB.

Section 2.2 and Table 2-2 presented the rationale and criteria utilized in the formal site selection process. The three sites selected during this evaluation then formed the basis for





the preparation of this EA. Table 2-5 summarizes and compares the major environmental impacts for the proposed action and each of the alternatives considered in this assessment including No Action. Further details of the individual impacts examined in this EA can be found in Section 4.0, Environmental Impacts of Proposed Actions and Alternatives.

**Table 2-5**  
**Summary and Comparison of Impacts of the Proposed Action and Alternatives**

Issues	Proposed Site	Alternative # 1	Alternative # 2	No Action
Air Quality	<p>Short-term - increase in PM<sub>10</sub> (15 tons) and CO (0.66Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The Department of the Army (DA ) has a Memorandum of Understanding (MOU) (Oct88) exempting vehicles.</p>	<p>Short-term - increase in PM<sub>10</sub> (10 Tons) and CO (.50 Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The DA has a MOU (Oct88) exempting vehicle.</p>	<p>Short-term - increase in PM<sub>10</sub> (15 Tons) and CO (0.66 Tons) emissions. The PM<sub>10</sub> emissions would be reduced by 50 percent by watering twice daily. CO emissions would be reduced by limiting vehicle idle to less than 3 minutes. Emissions are at <i>de minimus</i> levels.</p> <p>Long-term - HETs exceed EPA Standards for PM<sub>10</sub> and NO<sub>x</sub>. The DA has MOU (Oct88) exempting vehicles.</p>	No Impact
Noise	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operations of the HET vehicles in expected numbers would violate local noise ordinances for land use. A noise wall would be required to reduce noise impact to Caffarelli Court to less than 55 dBA.</p>	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operations of the HET vehicles in expected numbers would violate local noise ordinances for land use. A noise wall would be required to reduce noise impact to Caffarelli Court to less than 55 dBA.</p>	<p>Short-term - construction would be temporary (less than 6 months) and during week-day daylight hours.</p> <p>Long-term - Operation of the HET vehicles in expected numbers would violate local noise ordinances at fence line. Impact to Caffarelli Court would be reduced significantly .</p>	No Impact

Water Use	Short-term- use of water for dust control and by construction workers provided by sub-contractor Long-term - Full-time staff -136,000 Gal/Mo. Reservists - 313,600 Gal/2-week period- No significant impact.	Short-term - use of water for dust control and by construction workers provided by sub-contractor. Long-term - Full-time staff- 136,000 Gal/Mo. Reservists- 313,600 Gal/2- week period - No significant impact.	Short-term - use of water for dust control and by construction workers provided by sub-contractor. Long-term -Full-time staff- 136,000 Gal/Mo. Reservists - 313,600 Gal/2- week period - No significant impact.	No Impact
Biology	No Impact	No Impact	No Impact	No Impact
Land Use	Residential/Recreational/Industrial Short-term - Temporary increase in construction personnel Long-term - Potential conflict with Base Comprehensive Plan	Residential/Recreational/Industrial Short-term - Temporary increase in construction personnel. Long-term - Less impact than the proposed action but still inconsistent with Base Comprehensive Plan.	Residential/Recreational/Industrial. Short-term - Temporary increase in construction personnel Long-term - Acceptable use of Base property.	Residential/ Commercial
Cultural Resources	No Impact	No Impact	No Impact	No Impact
Hazardous Materials Management	Short-term - No impact Long-term - HAZMART use required- No impact	Short-term - No impact Long-term - HAZMART use required. No impact	Short-term - No impact Long-term - HAZMART use required-No impact	No Impact
Hazardous Waste Mgmt	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact.	Short-term - No significant impact Long-term - RCRA Part B- Estimated less than 100 gallons/quarter of used oil. No impact	No Impact
Solid Waste Management	Little solid waste. Uses existing Base contractors. No impact	Little solid waste. Uses existing Base contractors. No impact.	Little solid waste. Uses existing Base contractors. No impact.	No Impact

### 3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

As stated in Section 2.0, the project study area (containing the proposed site and the two action alternatives) is located in Area III of the Nellis AFB complex, to the north of the Main Nellis AFB site. All sites are accessed by driving north of the Main Nellis AFB complex along Range Road. Although this is a private road, use of the road is not restricted in any manner and can be accessed by the general public. None of the three sites are protected by fencing to limit access nor are they identified specifically as Nellis AFB property.

The description of the existing environment generally applies to all of the candidate sites examined. This is true for climate, air quality, geologic setting, minerals, water, land use, and traffic. The existing environment for biology and cultural resources, although generally identical, differ to some degree due to the extensive disturbance already occurring at most of the proposed action site. Where specific existing environment characteristics are identified, they will be discussed under the specific discussion topic. For example, a discussion on biological resources will highlight the disturbance already occurring over most of the proposed project site.

The Las Vegas Valley is one of the driest and warmest areas in the nation. The climate consists of hot summers, cool winters, and a wide fluctuation in annual rainfall. Summer temperatures above 105 degrees F. and winter temperatures below freezing are relatively common. The average daily minimum and maximum temperatures during the winter months are about 35 degrees and 60 degrees F. During the summer nights, minimum temperatures average 70 to 75 degrees F. The frost free period averages about 241 days per year.

The climate of the Las Vegas Valley is typical of the Basin and Range Province ranging from arid in the basin lowlands, to semi-arid on the alluvial aprons, to sub-humid in the mountains. The arid climate of the basin lowlands is characterized by low relative humidity, low precipitation, and a wide variety of diurnal temperatures.

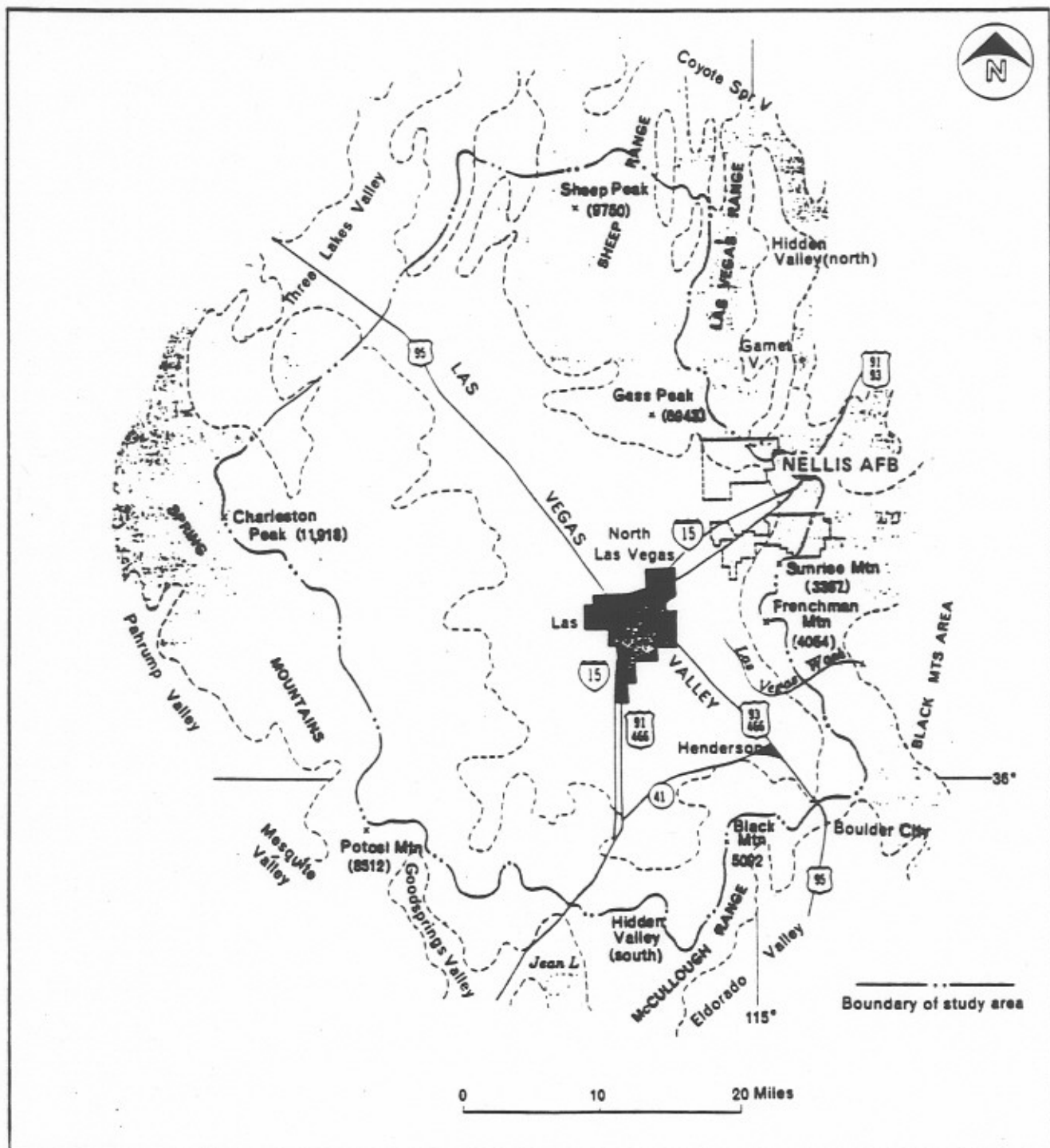
Evaporation in the Las Vegas Valley is high. This is partially due to the high annual average temperature, but is also influenced by wind and the prevalent low humidity. The average relative humidity is about 20 percent, and summer readings of less than 10 percent are frequent.

Most of the precipitation in the Las Vegas area falls during the months of July and August and the winter months. The precipitation in July and August is from localized high-intensity thunderstorms of short duration. The precipitation falling during the winter months is usually from regional storms of longer duration and of lower intensity. Precipitation falls chiefly as rainfall in the basin lowlands.

Strong winds are common in the area throughout the year, but are most prevalent during the spring months. Winds frequently blow from the southwest or northwest and are strongly influenced by the surrounding mountain topography. The mean wind velocity is nine miles per hour (MPH), but velocities in excess of 50 mph are experienced occasionally during the passage of a major frontal weather system.

The Las Vegas area is part of the basin and range physiographic province, consisting of a desert basin flanked by mountain ranges on all sides. Nellis AFB is situated west of the River Mountains (maximum elevation 4,054 feet) on the northeastern edge of the Valley. In addition to the River Mountains, the Las Vegas Valley is surrounded by three additional mountain ranges: the Las Vegas Range and the Sheep Range (maximum elevation 9,750 feet) to the north; by the Spring Mountains (maximum elevation 11,918 feet) to the west; and by the McCullough Range (maximum elevation 5,092 feet) to the south. The Spring Mountains and the Sheep Range consist primarily of sedimentary rocks. The McCullough Range and the River Mountains represent an igneous sequence that topographically closes the basin to the south. Figure 3-1 illustrates the major geologic features in the area.





## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

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**Figure 3-1 Major Geologic Features**

The Las Vegas Valley is characterized by both bedrock and valley fill as the major geologic units of the Valley. Quaternary alluvial fan deposits coalesce along the mountain fronts forming a continual slope down into the valley floor. The boundary between the main alluvial fans and the mountains is marked by an abrupt change in slope as well as formation material. In the upper part of the alluvial fans, the materials consist of poorly sorted cobbles, boulders, sand, and gravel. At the lower elevations, materials become less coarse, more rounded and better sorted, and grade into fine sand, silt, and clay material deposited in the playa-like bottoms of the valley.

The water-bearing properties of the valley fill are not constant throughout the basin. The two unconsolidated sediments that fill the valley basin comprise the principal water-bearing units for the Las Vegas Valley, including Nellis AFB. There are two principal geologic units within the Las Vegas Valley fill: the Muddy Creek Formation, consisting of fine sand, silt, and clay; and alluvium, including the Las Vegas Formation, consisting of gravel, sand, silt, and clay.

### **3.1 Air Quality**

The Federal rules governing conformity determinations were promulgated November 30, 1993, (58FR 63214 pursuant to section 176(c)(4) of the Clean Air Act Amendments.

Subpart A relates to transportation plans, programs and projects developed, funded or approved by the United States Department of Transportation (DOT) and by Metropolitan Planning Organizations (MPOs) or other recipients of funds under Title 23 U.S.C. of the Federal Transit Act. Subpart B, General Conformity, of the same rule, relates to projects not covered as a part of Subpart A actions. The AFRC/OMS is a General Federal Action subject to Subpart B, general Conformity.

Federal Conformity Rules prohibit any activity which does not conform to an applicable State Implementation Plan for air quality. Since the Clark County Air Pollution Control District has not yet received EPA approval for its State Implementation Plan for carbon monoxide

(CO) nor has it completed its SIP for PM<sub>10</sub>, the Federal conformity rules are automatically enforced in the state. Conformity rules are applied to Federal actions for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by a Federal Action would equal or exceed any of the rates identified in rule §51.853(b)(1)(2).

The Las Vegas metropolitan area is currently classified as non-attainment for carbon monoxide (CO) and as serious non-attainment for particulate matter less than 10 microns (PM<sub>10</sub>). Emission inventories for the area indicate that a substantial amount of PM<sub>10</sub> is the result of natural processes, such as wind erosion from vacant land and the general building explosion in the Las Vegas area. Mineral extraction operations in the northeast and southeast parts of the Clark County Planning area also contribute to the area PM<sub>10</sub> emissions problem. Las Vegas is rated as one of the five worst areas of the United States for PM<sub>10</sub> emissions according to the Clark County Department of Comprehensive Planning and the Clark County Health District.

To help bring Clark County into compliance with EPA standards by the year 2000, the APCD has set the following priorities:

- To reduce the emissions of particulate (PM<sub>10</sub>), carbon monoxide (CO), pollen, and Hydrogen sulfide;
- To maintain compliance status for ozone, nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>);
- To assure compliance with Clean Air Act and Board of Health mandates; and
- To track developments related to energy, climate change policy, industrial growth, clean air corridors, and urban growth.

Efforts to improve the air quality in the Las Vegas area are starting to show some signs of taking effects. The oxygenated fuel program has been in place for five (5) winters. Figure 3-2 illustrates an 18 year history of CO emissions at the Clark County Health District Offices. These results show a significant improvement in the CO emissions rate in the last four (4) sample years (Clark County Health District, 1993). The decrease in CO is even more dramatic, considering the population growth experienced by Las Vegas in recent years.

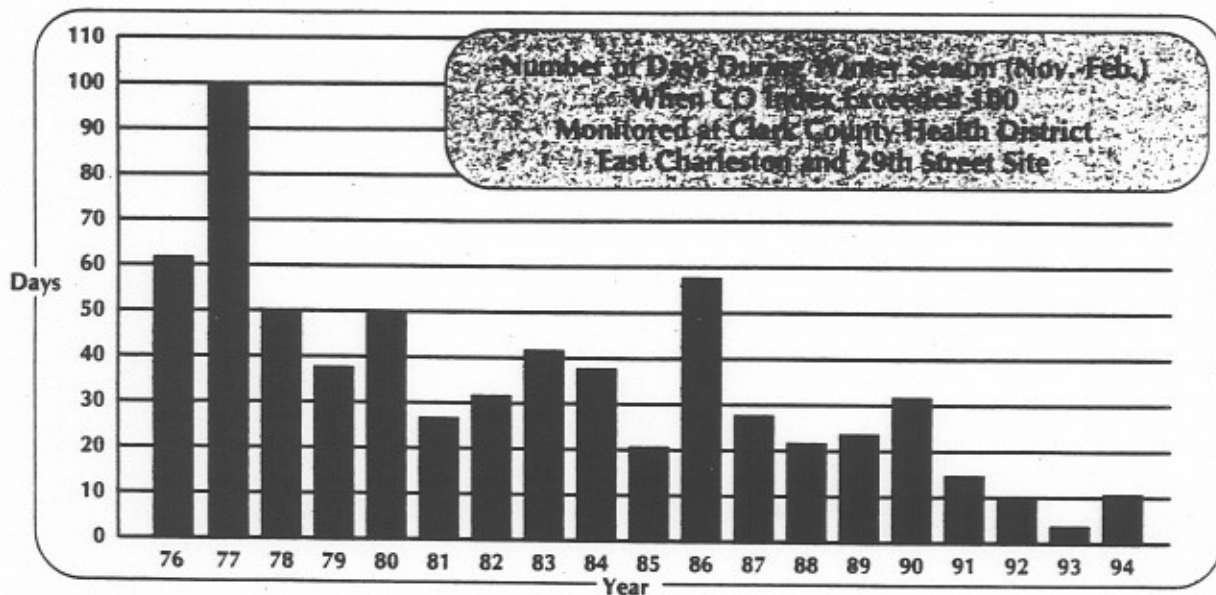
Efforts to reduce  $PM_{10}$  have also been successful. Annual average values have fallen from their peak levels reached in 1990. The level of  $PM_{10}$  emissions has steadily increased in the past three years, but these levels are still considerably below the 1990 emissions level. A number of areas in the Valley still however, exceed the 24-hour standard, apparently due to nearby sources of fugitive dust. Figure 3-3 illustrates the fugitive dust emissions ( $PM_{10}$ ) history in Clark County.

Air pollutants in the area of Nellis AFB are generated by numerous Nellis AFB on-site sources and from the surrounding areas. These sources include aircraft flight operations, aircraft and ground-maintenance operations, aerospace ground-equipment operations, surface coating operations, fire training exercises, motor vehicle operations, fuel storage and refining, and heating and power production.

Current hydrocarbon emissions from the area of the proposed AFRC/OMS site include: fuel storage facilities located southeast of the site along Range Road, rail tanker cars parked along rail spurs; the maintenance facility to the northwest of the site; and industrial complexes further north along Range Road.

### 3.2 Noise

Development in areas surrounding air installations, underlying military training routes (MTRs) and military operating areas (MOAs), result in exposure of the public to noise



Las Vegas

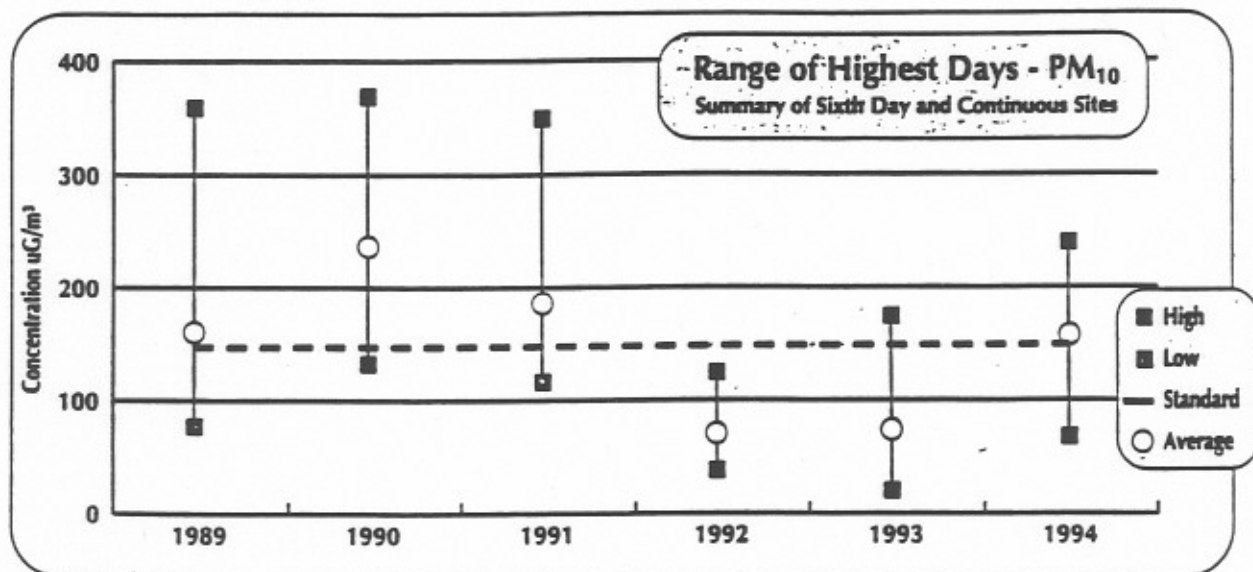
Vicinity Map

## U.S. ARMED FORCES RESERVE CENTER Nellis AFB, Las Vegas, Nevada

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Figure 3-2 Eighteen Year History of CO Emissions





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**Nellis AFB, Las Vegas, Nevada**

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**Figure 3-3 Five Year History of PM<sub>10</sub> Emissions**

associated with military aircraft operations and ancillary efforts. The Noise Control Act of 1972 established that Federal Agencies, when engaged in an activity resulting in the emissions of noise, should comply with Federal, state, interstate, and local requirements, respecting the control and abatement of noise to the same extent as private entities. State, regional, and local governmental agencies may develop zoning and planning ordinances which have the potential to affect Air Force Installations and their operations.

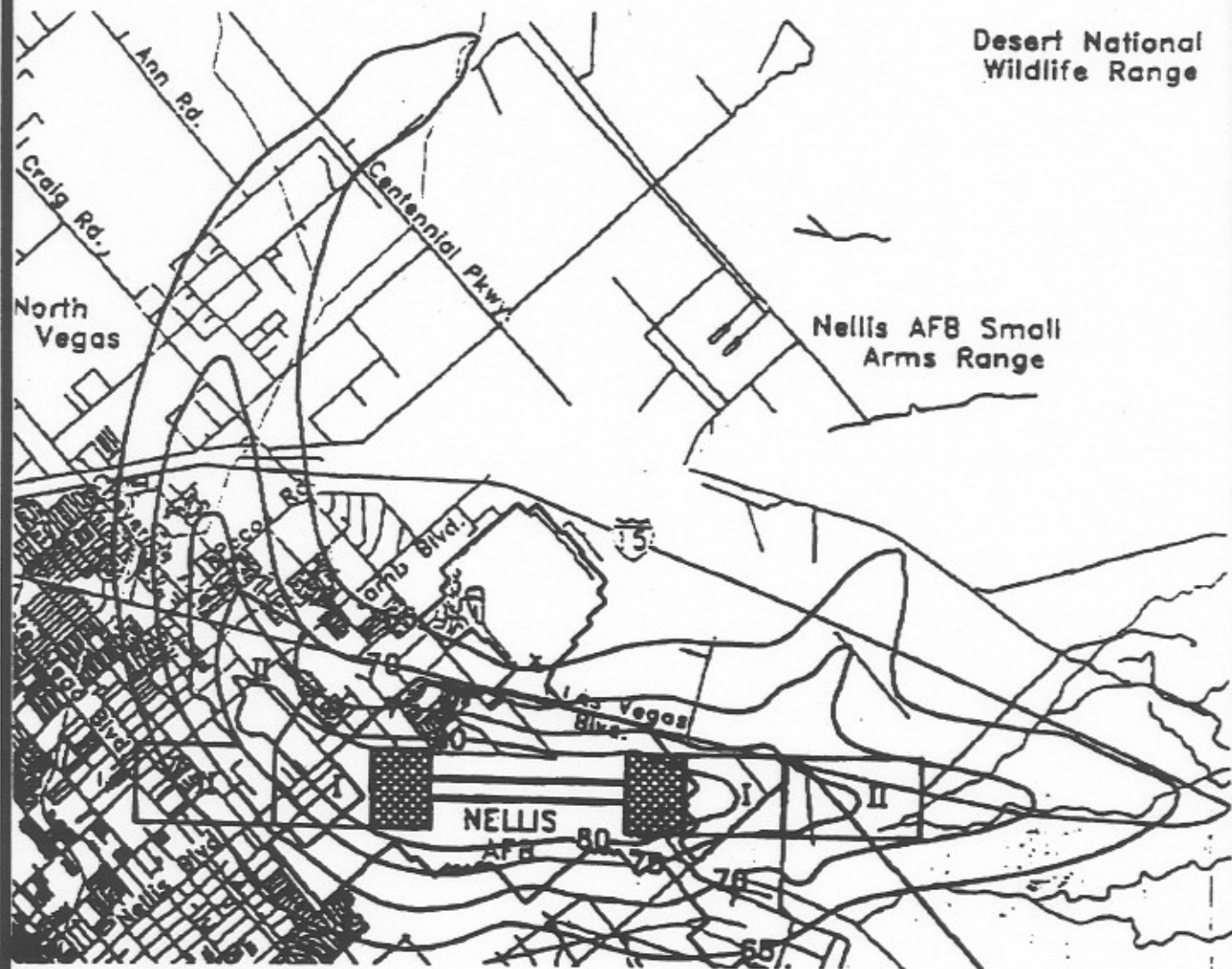
Existing noise levels in the Nellis AFB area are a mixture of noise intensities ranging from aircraft operations nearby at Nellis Main Base in Area I to the typical noise characteristic of an industrial area. The primary noise source in the affected area is the Nellis runway operations with thousands of sorties flown each year. Figure 3-4 illustrates the existing noise zones at Nellis AFB. The site for the proposed AFRC/OMS facility currently receives noise exposure levels up to 70 dB in intensity.

Noise regulations for Clark County are referenced in "The General Conditions Code Book" under Title 29.44.100, Noise. Noise limits are categorized by octave range at the boundary line of the property. Additional night time restrictions also apply between the hours of 9:00PM and 7:00AM. Night time noise level limits identify the maximum noise level that may occur within 500 feet of a residence. Table 3-1 presents the Clark County noise ordinances.

The primary industrial noise near the proposed site would be expected from the heavy trucks operating along Range Road. Table 3-2 provides an indication of the currently intensity of background noise levels that might be encountered in the area of the proposed AFRC/OMS facility.

### 3.3 Water

The following sections discuss the surface water, groundwater, water use, and waste water characteristics of the Nellis AFB area. No wetlands exist on the proposed site or any of the



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Figure 3-4 Existing Nellis AFB Noise Zones

Table 3-1

Clark County Noise Ordinance Standards\*

Time Allowed	Octave Range	Maximum Limits(dBA)
Day time(7:00AM-9:00PM)	20-300cycles	60
	300-2400cycles	45
	above 2400 cycles	35
Night time (9:00PM-7:00AM)**	20-300cycles	55
	300-2400cycles	40
	above 2400 cycles	30

\* Title 29.44.100, Noise

\*\* Within 500 feet of a residence

Table 3-2

## Intensity of Various Sounds

Sound Source	Intensity Level(dB)
Jet plane at 30 m	140
Threshold of pain	120
Loud indoor rock concert	120
Siren at 30 m	100
Auto interior, moving at 90 km/h	75
Busy street traffic	70
Ordinary conversation at 50 cm	65
Quiet radio	40
Whisper	20
Rustle of leaves	10
Threshold of hearing	0



alternative sites.

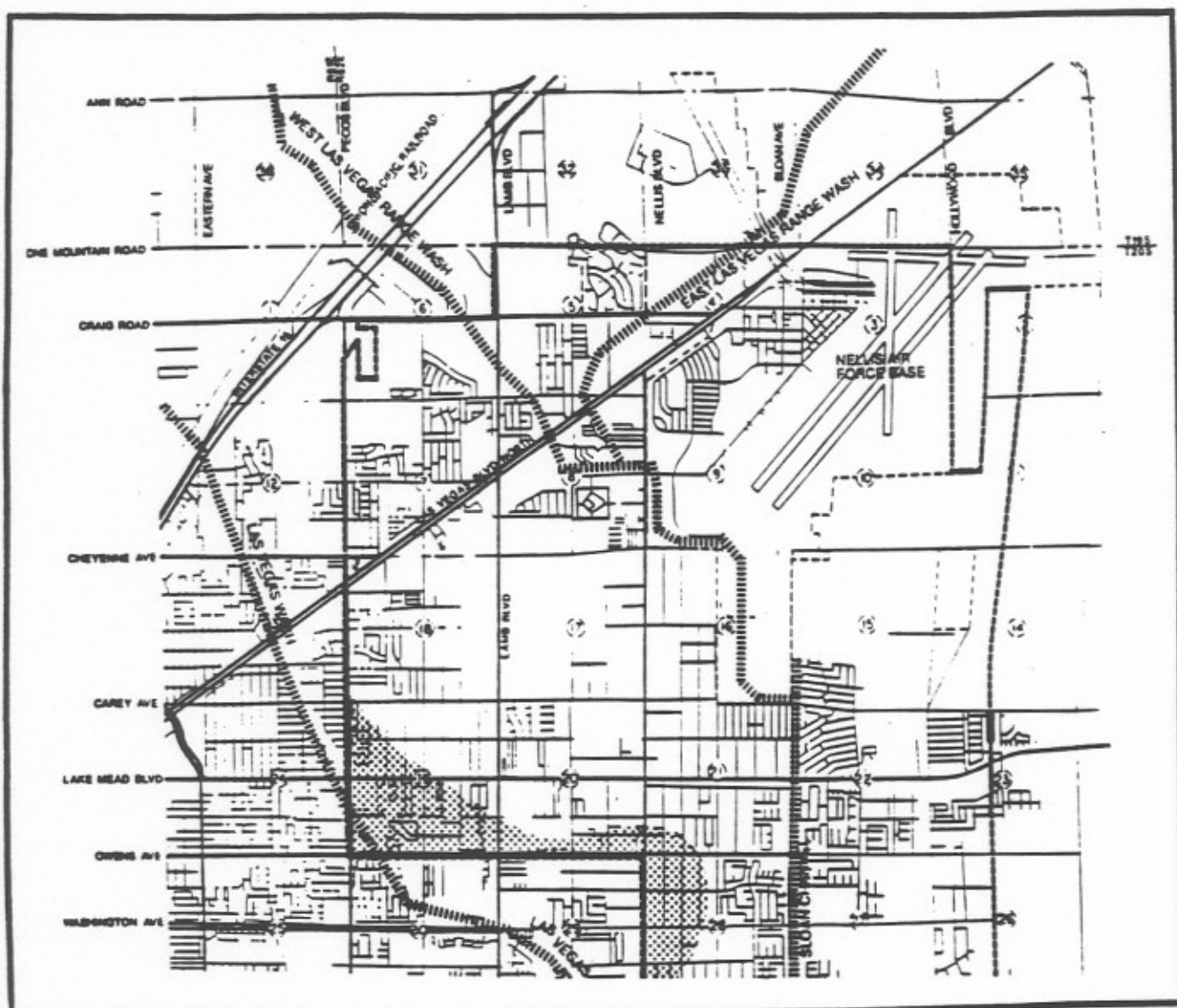
### 3.3.1 Surface Water

Nellis AFB can be characterized by a lack of perennial streams throughout the Nellis AFB area. Natural surface runoff does occur, but it is limited to the infrequent storms that occur throughout the Valley area. Localized thunderstorms can produce significant, high-intensity, and short duration rainfall events that can result in flooding. Storms occurring during the winter months are normally of less intensity and do not have a high flooding potential associated with the term event.

Water runoff from either type of storm event does not represent a major source of groundwater recharge. Some surface water does percolate to the shallower aquifer, however, the majority of the storm water leaves the basin through the Las Vegas Wash. Surface drainage in the vicinity of the project study area leaves the area primarily through the East Las Vegas Range Wash which is the major drainage wash near Nellis AFB. This wash generally runs parallel to Las Vegas Boulevard, approximately 1000 feet south of the proposed AFRC/OMS site. Figure 3-5 illustrates the surface water drainage patterns in the area around Nellis AFB. The approximate 100-year floodplain is also illustrated on this figure, demonstrating that Area III of Nellis AFB is not in the 100-year floodplain.

### 3.3.2 Groundwater

In the Nellis AFB area, groundwater occurs within the valley sediments. A significant portion of the Base's water supply is obtained from on-base water wells. Figure 3-6 illustrates the location of the on-site water wells. In addition to the on-site wells, there are two active wells located about 4 miles west of the Base on Craig Road. These wells are located in an area where the aquifers are more permeable, providing a higher water yield rate.



**Legend:**

Major Wash



Approximate 100-Year Floodplain



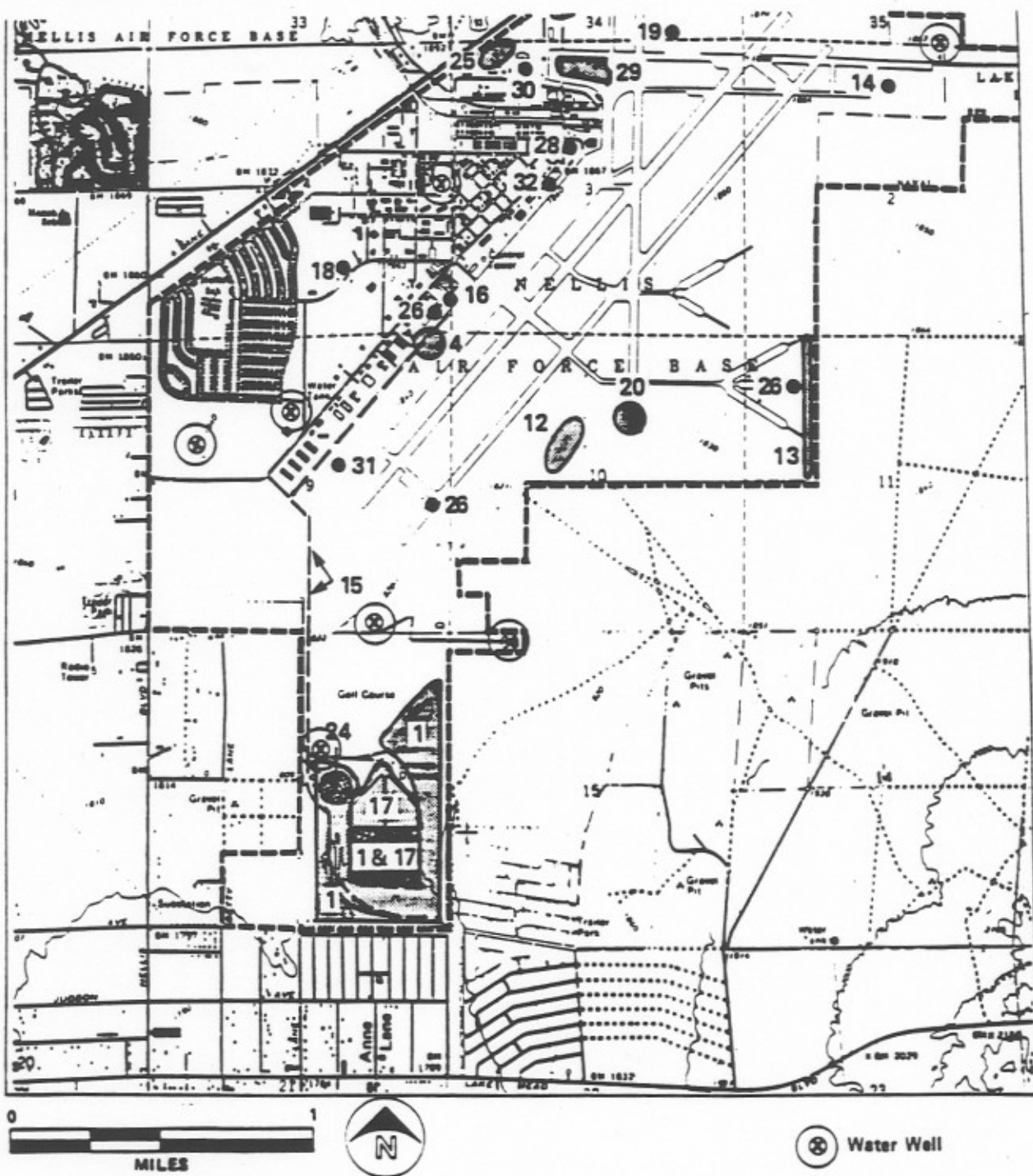
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**Figure 3-5 Surface Water Drainage**



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**Figure 3-6 Water Well Location**

Originally groundwater levels were at or near the surface throughout a large area of the Las Vegas Valley. In the vicinity of Nellis AFB, the potentiometric surface was zero to 50 feet below the surface prior to the development of the Las Vegas area.

As metropolitan Las Vegas developed, the demand for groundwater increased to the point where 80,000 acre-feet per year were pumped out of the Las Vegas Valley aquifers in the early 1970's. This pumpage rate represented extraction at over twice the estimated aquifer recharge rate, creating a progressive decline in groundwater levels.

Later in the 1970's, Las Vegas ceased its dramatic dependency on area groundwater with the completion of a pipeline to Lake Mead. This allowed Las Vegas to tap into the Colorado River water supply. The long-term decline in groundwater levels stopped with the completion of the Lake Mead pipeline. Area monitor wells have shown a recharge to the Las Vegas aquifer. The depth to groundwater beneath Nellis AFB ranges from 60 -120 feet for the shallow aquifer while the deeper aquifer is 600-1000 feet deep. Groundwater levels in Area m and at the small arms range become progressively deeper towards the mountains.

### 3.3.3 Water Use

Potable water for current operations at Nellis AFB is provided by three sources. The first is potable water from 10 wells in Area I and west of Craig Road; the second is potable water from the Colorado River; and the third is non-potable water from four wells in Area II. In addition to these sources, the City of North Las Vegas, supplies a Department of Energy facility on Base and the new VA/USAF hospital with comparatively small amounts of water. Nellis AFB gets approximately 25 percent of its potable water from the 10 Base wells that draw from the lower aquifer underlying the base.

Colorado River water is delivered from the Colorado River Commission (CRC) via pipelines owned and operated by the Las Vegas Valley Water District. Major (12-18 inch) water service supply pipelines in the area supply Nellis AFB and the water needs of the adjacent areas.



Nellis AFB has contracted with CRC for the purchase of 4,000 acre-feet of water per year with a maximum draw of six cubic feet per second. Nellis does not currently consume its full allotment of water from CRC. Nellis AFB is however, exceeding its maximum draw rate of six cubic feet per second during peak withdrawal rates in the summer months. This fact illustrates the need to address temporary water storage facilities to eliminate the excess draw down rather than any other change in operating philosophy.

#### 3.3.4 Water Quality

The term waste water covers a broad scope of water quality concerns which may affect many natural water resources. The Clean Water Act (CWA), a 1977 reauthorization of previous legislation known as the Federal Water Pollution Control Act (FWPCA), is the principal Federal legislation which addresses the control of water pollution. The CWA makes it illegal for any person, including those on Federal facilities, to discharge pollutants from an industrial or domestic point source into the waters of the United States without permission. The CWA also establishes the NPDES program for the issuance of such permits.

Stormwater permits are required by federal law for construction activities that disturb five or more acres of land and discharge stormwater to the waters of the United States. The State of Nevada has been issued a general permit, Permit No. GNV0022241, to meet this requirement. The project applicant is required to submit a notice of intent (NOI), prepare a stormwater pollution prevention plan, and submit a \$200.00 fee no later than two days prior to the start of construction.

There are no groundwater monitoring wells in the proposed and alternative locations. Known groundwater contamination of the shallow aquifer exists across and down gradient. Across Range Road east of the proposed location, groundwater contamination from hydrocarbons does exist beneath the CAL-NEV fuel farm.

#### 3.4 Biology

The Las Vegas Valley contains a diverse array of vegetation types. The study area lies between the Mojave Desert to the west and south and the Great Basin Desert to the north. A



transitional zone, which includes the Las Vegas area, extends west from southwestern Utah to southern California.

The most widespread biotic community in the vicinity of Nellis AFB is the creosote bush community comprised primarily of creosote bush and bursage. In undisturbed areas around Nellis AFB, these shrubs grow in scattered clumps that increase in density near water sources. The density of plant communities within Area III of Nellis AFB is reduced compared to naturally occurring undisturbed communities in other areas of the valley. This is a result of area development and public intrusion impacting the survivability of fragile desert vegetation. Although no protected plant species were observed during the site visit, an unconfirmed identification of the California desert poppy (Arctomecon californica) has been reported in an area northeast of Area III.

As stated earlier, the preferred site for locating the AFRC /OMS facility has been highly disturbed as a result of the surface excavation of almost 6-feet of materials over most of the site. The site is almost totally void of vegetation and animal life. Because of the site's close proximity to Range Road and corresponding vehicular traffic, the site has also been used as a refuse dumping ground by many area visitors. Figure 3-7 illustrates some of the debris found along the perimeter of the proposed site.

The areas of least disturbance remaining at the site are the United States Geological Survey (USGS) Bench Mark and the site perimeter areas. The mound remaining in place near the center of the site contains the U.S.G.S. bench mark. The site's perimeters contain limited plant population due to the site's usage for disposal of refuse and other materials.

A survey of the site vegetation showed a sparse population density of creosote bush/bursage (*Larrea tridentata*/*Ambrosia dumosa*), and several globe mallow (*Sphaeralcea ambigua*) and saltbushes (*Atriplex* spp). Several annual forbes and annual grass species were observed on site, but few of these species were identifiable due to their poor condition during this winter survey.



Las Vegas

Vicinity Map

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Nellis AFB, Las Vegas, Nevada**

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**Figure 3-7 Existing Site Debris**

Alternative Site No.1, a smaller square parcel within the 30-acre site of the proposed action. shows even greater disturbance than the proposed action site. A higher percentage of the property has been excavated, resulting in less site vegetation.

The perimeter of the proposed AFRC/OMS site might be classified as a potential habitat for several protected animal species by the U.S. Fish & Wildlife Service and the State of Nevada, but a visual survey of the property indicated no populations of protected species. The desert tortoise (*Gopherus agassizii*), a Federally-threatened species; the chuckwalla (*Sauromalus obesus*), the spotted bat (*Euderma maculatum*), and the Gila Monster (*Heloderma suspectum*), a State of Nevada protected species, are all potential visitors to the site. However, the heavy disturbance to the site already, the lack of vegetative cover, and the trash remaining on-site, limits the attractiveness of the site to most animals. This factor, together with the sites close proximity to two roads (Range Road and DRMO Road), make the site very unappealing to animal populations.

On August 21, 1991, Nellis AFB requested a formal consultation with the U.S. Fish & Wildlife Service for proposed developments on Nellis AFB property. On May 12, 1992, the U.S. Fish & Wildlife Service released a Biological Opinion for the Proposed Operation of Existing Facilities and Development on the Nellis Air Force Base. This formal consultation process, pursuant to Section 7 of the Endangered Species Act of 1973, as amended, identified those species that may potentially be impacted by development at Nellis AFB. The only species listed in this Biological Opinion was the Desert Tortoise (*Gopherus agassizii*). The U.S. Fish & Wildlife Service states:

"It is our Biological Opinion that the proposed operation of existing facilities on Nellis in Las Vegas, Nevada, is not likely to jeopardize the continued existence of the threatened Mojave population of the desert tortoise. Critical habitat was designated for the Beaver Dam Slope subpopulation in Utah in 1980, but not for the subpopulation in Arizona, California, and Nevada. Therefore, no critical habitat will be destroyed or adversely modified by these activities."

Further, significant Mojave Desert Tortoise surveys were completed by Sierra Delta Corporation in 1991 on and around Nellis AFB property as part of a Biological Assessment for the tortoise. Area 6, a parcel of 245 acres located northwest of the proposed site, showed no signs of the Mojave Desert Tortoise.

Other sensitive species that have been identified by the U.S. Fish & Wildlife Service that could be found in the area include: the spotted bat (*Euderma maculatum*), and the loggerhead shrike (*Lanius ludovicianus*). Both of these species are federal category-2 species but are unlikely to occur on site due to lack of suitable habitat. The Gila monster (*Heloderma suspectum*), is a State of Nevada protected species.

Alternative No. 2, consisting of approximately 6.5 acres north of DRMO Road for construction of the OMS and MEP parking, contains the same species of plants found on the proposed site. Creosote bush, bursage and salt bushes dominate the landscape and occur to a greater degree than on the proposed action site. Although the site is less disturbed than the proposed site, it still shows signs of disturbance and contains no protected species of plants or animals.

### **3.5 Land Use**

Nellis AFB and parts of the surrounding land area falls in an unincorporated township of Northwest Clark County. The land use plan developed for Nellis AFB has established the goals, objectives, and policies to meet the future development and planning requirements for the Nellis site. The Clark County Department of Comprehensive Planning is the major controlling agency overseeing growth in the community surrounding the Nellis AFB.

The dominant land use feature in northeastern Clark County is Nellis AFB. The Base consists of 11,496.8 acres, or 17.96 square miles of land area. Area III is the location of all project alternatives and is situated northwest of the Main Nellis Site (Area I site). Area III contains 1.9 square miles or 11 percent of the total Nellis land area. The area is separated



from the other two Base areas by Las Vegas Boulevard to the southeast of the proposed site and consists of a mixed use of open space, family housing, industrial development, and recreational uses. Approximately 865 acres are open space, 200 acres are housing, and 111 acres are industrial. Twenty one acres are utilized for outdoor recreation.

Area III usage surrounding the proposed site consists of industrial developments to the east of Range Road in the form of fuel storage tanks (both Cal-Nev and Nellis AFB sites); railroad spurs, auto wrecking and salvage operations to the northwest of the site (on the west side of Range Road); and commercial development along Las Vegas Blvd. to the southwest of Craig Road.

Specific Nellis AFB developments in area III consist of: the outdoor recreation area to the south of the proposed facility, the Nellis Federal Hospital located to the west of Range Road along Las Vegas Blvd., and the family housing (Caffarelli Court) to the southwest of the Family Camp. The Defense Reutilization and Marketing Office (DRMO) and Security Police occupy facilities to the northwest of the site, along DRMO Road.

Primary opportunities for commercial development in the area lie west of Nellis Blvd., approximately one mile from the proposed site at its nearest point. The Clark County Comprehensive Plan agrees with the promotion of this area (west of Nellis Blvd in that commercial development in this manner will help protect operations at Nellis AFB and limit the focal point of area development away from the Base. Development of this nature will also provide economic benefit to the local community.

### **3.6 Traffic**

The Traffic Section of the Research Division at the Nevada Department of Transportation (NDOT) is responsible for the collection, tabulation, and analysis of traffic trends throughout the state. In 1993, the Traffic Section monitored daily traffic volumes on a continuous hourly basis at two traffic count stations located in the vicinity of Nellis AFB.



The closest, Station 200, is located 0.2 mile north of the main gate to Nellis AFB, on Las Vegas Boulevard. The Second Station, Station 201, also located on Las Vegas Blvd, is northeast of the Nellis AFB site, approximately halfway between Nellis AFB and Interstate Highway 15.

It should be noted that traffic counts have dropped dramatically at Station 200 (closest to the Nellis AFB main gate) since 1989. In 1989, traffic counts for this Station reached an annual high of 21,400. This was the highest number of vehicles ever recorded at this Station. In 1989, Nellis AFB relocated the main Base entrance, modifying the flow of traffic resulting in a decrease in traffic along Las Vegas Boulevard. Since 1989, traffic counts have dropped dramatically and totalled only 9,700 in 1993. For the past four years, traffic numbers have been relatively consistent, varying from a low of 8,960 in 1990 to a high of 9,715 in 1992.

At Station 201, 0.1 mile south of the road to the Lake Mead Base, traffic counts are considerably lower, due partially to the remoteness of the area and its location away from the main population centers. The Annual Average Daily Traffic (AADT) values for this Station have risen slowly since 1984 from a count of 3,360 to a peak in 1992 of 4,585. The AADT values for 1993 dropped slightly to 4,250.

### **3.7 Cultural Resources**

The Nellis AFB area and all of Southern Nevada are a part of the prehistoric culture area identified as the southwestern Great Basin. The common elements of the cultures of this area were their collecting lifestyles and habits that allowed them to gather and exploit the various resources available throughout the changing seasons.

The earliest known inhabitants in the area can be traced to sites near the Tule Springs area and date back to the Paleoindian occupation period. This period, dating before 10,000 years before present (B.P.) to about 8,000 B.P., was characterized by nomadic groups hunting

large mammals, including mammoths or mastodons. The succeeding Archaic period, dating 8,000 B.P. to approximately 1,500 B.P., was characterized by improvements or refinements to the foraging or seasonal collecting lifestyles. Archaic sites are known from the Corn Creek Dunes area to the north of Nellis, Tule Springs, and the Berger site to the south.

Evidence of a changing lifestyle to include horticultural adaptations i.e., simple gardening, next appeared and were a part of the protohistoric Southern Paiute existence. Agricultural groups were known to occupy the Virgin and Muddy River drainage by about 1,500 B.P. Archaeological records at the Museum of Natural History, University of Nevada, Las Vegas, were searched for previous surveys in the vicinity of Area III to determine the potential existence of cultural resources in the area. Cultural resources identified and reported during these surveys vary from small lithic scatters to large temporary camps. None of these resources were identified at either the proposed action site or the alternatives.

The potential cultural resource value of the proposed site is further reduced by the excavation of approximately 6-feet of surface and sub-surface materials as fill for the recently constructed Nellis Federal Hospital. A very limited original environment exists at the site; predominantly around the perimeter area adjacent to Range Road and DRMO Road. One additional very small area surrounding the USGS benchmark on the site is also relatively undisturbed. Because of the highly disturbed nature of the existing site, and the removal of such a large degree of surficial materials, a Class III Cultural Resources survey was not conducted on this site.

Alternative No. 1 to the proposed action shows an even greater level of disturbance than the proposed site further reducing the potential for any cultural resources. Alternative No. 2, although less disturbed than the proposed action site, still has no identified cultural resources.

### **3.8 Hazardous Materials Management**

All hazardous materials entering Nellis AFB are controlled by the Base HAZMART. Controlled by a highly sophisticated database management system, the database tracks hazardous materials by manufacturer as well as formulas. This allows for tracking of differences in product formulation. It also provides for tracking of changes in product formulation or brand new hazardous materials entering the Base.

### **3.9 Hazardous Waste Management**

Hazardous wastes are certain solid wastes that appear in the EPA's "Listed Wastes" in 40 CFR 261, or are wastes which demonstrate characteristics of ignitability, corrosivity, or reactivity, or exceed Toxicity Characteristic Leaching Procedure (TCLP) toxicity limits. Air Force Installations typically generate waste solvents, oils, paints, and sludges which may be regulated as a hazardous waste. The Resource Conservation and Recovery Act (RCRA) and its amendments mandated regulations to control hazardous waste from their origin through collection, storage, transport, treatment, and ultimate disposal. Nellis AFB closely manages all of the hazardous wastes generated on-site. Waste is segregated and managed according to waste types and disposed of according to Base practices and is consistent with all Federal, state, and local disposal requirements. All waste oils, lubricants, and solvents are collected and disposed of in accordance with Base and RCRA requirements. Scrap metals are sent to the DRMO facilities just west of the proposed AFRC/OMS facility. Oil filters are drained and crushed, double bagged, and sent to the DRMO facility. Solid wastes are collected by Silver States under a service contract with Nellis AFB.

## **4.0 ENVIRONMENTAL CONSEQUENCES**

This section discusses the potential environmental consequences of the proposed action and alternatives for the planned AFRC/OMS facility. The proposed action is to construct a new AFRC/OMS facility on a 16.5-acre parcel of land within Area III of Nellis AFB. The alternatives are to construct a similar AFRC/OMS facility on a much smaller parcel (10-acres) of land at the same intersection; build a new AFRC/OMS facility spanning both sides of DRMO Road, or the no action alternative in which the Army, the Navy and the Marine Corps Reservists will continue to use their existing downtown Las Vegas location. The proposed action and each of the alternative actions will discuss the potential impacts of each alternative based on the information presented in Section 3.0., Description of the Existing Environment. Short-term impacts (if any) are discussed as the first impact element of each technical subject.

### **4.1 Proposed Action**

The environmental consequences of the proposed action would potentially impact the following environmental protocols: air quality - short and long term, noise, water resources, biological resources, land use, traffic, cultural resources, and hazardous waste management.

#### **4.1.1 Air Quality**

The existing ambient air quality and emission rate of pollutants in the Las Vegas Valley were discussed in Section 3.0. The type of pollutants considered in this EA are those historically regulated by federal, state, and local regulatory agencies. Of primary importance are those pollutants regulated as "criteria pollutants" through the National Ambient Air Quality Standards (NAAQS). These six pollutants are: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter (PM<sub>10</sub>), and lead. In the Las Vegas area, the criteria pollutants of greatest concern are carbon monoxide and

particulates. Nellis AFB, located in Clark County, is located in a moderate non-attainment area for carbon monoxide and a serious non-attainment area for  $PM_{10}$  (particulate matter). Conformity analysis will be limited to these two priority pollutants.

#### Short-term Impacts

The proposed action would result in short-term, temporary increases in  $PM_{10}$  and CO emissions during construction of this new facility. Construction on the proposed site would require the import of and placement of approximately 155,000 cubic yards of fill material to bring portions of the site up to an acceptable grade. The site was initially used as a borrow pit for fill material during the construction of the nearby Nellis Federal Hospital. It is proposed to provide fill material from two sources: 130,000 cubic yards from a nearby borrow pit on Federal lands, approximately two miles north of the proposed site along Range Road and approximately 25,000 cubic yards by deepening the existing pit on the proposed project site.

Using a conservative conversion factor of 1.4 Tons per cubic yard, the 130,000 cubic yards needed from the borrow pit will weigh approximately 182,000 lbs. The EPA emission factors for excavation of borrow materials using batch drop excavation techniques are 0.0024 lbs/ton. This equates to the generation of approximately 437 pounds or 0.2 Tons of  $PM_{10}$  particulates as a result of the excavation process.

It is estimated that about 7,222 trips (using conventional 10-cubic yard belly dump trucks and 8-cubic yard pup trailers) would be required for delivery of fill material. This is based on the need to transport approximately 130,000 cubic yards of fill material to the site at a rate of 18 cubic yards per trip. Fugitive dusts generated as a result of this operation are calculated based on total vehicle miles traveled. Based on a total of 7,222 trips, requiring approximately four miles per round trip, an estimated 28,888 vehicle miles will be traveled to relocate fill materials. Utilizing an EPA emission factor generated for collector streets (0.013 lbs/vehicle mile traveled), it is estimated that approximately 375 lbs or 0.189 Tons of



fugitive dusts would be generated.

Site excavation, grading, and compaction are the primary site excavation activities that would add to and  $PM_{10}$  emissions. The EPA emission factors for heavy construction activity are calculated to be 1.2 Tons/acre of land under construction per month. This factor is for all total suspended particulates and not strictly  $PM_{10}$  emissions. Based on particle size dynamics, the  $PM_{10}$  emission factor is conservatively 0.5 of the total or .6 Tons/acre.

Although the project site is approximately 16.5 acres, it is estimated that less than 15 acres of land will be disturbed by project construction. Further, less than half of this area would be under construction at the same time. Therefore, based on an actual disturbance of approximately 7.5 acres per month, a total of 4.5 Tons/month of  $PM_{10}$  emissions could result from the site preparation work. It is estimated that site preparation activities would last up to three months. The total anticipated emissions for this activity are therefore estimated to be 13.5 Tons. For all construction activities associated with the AFRC/OMS facility, a total emission of less than 14 Tons of  $PM_{10}$  emissions are expected.

The Clark County Health District requires a construction permit (Dust Control) permit for any construction project that would disturb more than 1/4 of an acre. Besides the initial application fee of \$26.40, projects are assessed fees based on their potential to emit (PTE) dust. The  $PM_{10}$  Offset Calculations for the Construction Activity Permit is based on calculations using the formula:

$$PTE_{PM-10} = (n \text{ Acres}) \times (654 \text{ lbs/acre}) \times (1 \text{ Ton}/2000 \text{ lbs}) \times 1 \text{ year}$$

Using this formula to calculate  $PM_{10}$  emissions results in the calculation of 5.4 Tons/year of  $PM_{10}$  emissions. Penalties or fees are assessed based on these emission calculations at a rate of two times the amount generated times a fee of \$581.00 per Ton. Based on this formula, and the proposed projects' calculated emissions rate of 5.4 Tons/year, a fee of:

5.4 Tons/yr. x 2 x \$581.00 per Ton

equals a Offset fee of \$6,274.80.

For completeness, it is appropriate to examine the project for "Regional Significance" which is defined for the nonattainment pollutants as emitting 10 percent or more of a nonattainment or maintenance area's emission for that pollutant. The Las Vegas Valley PM10 emissions are approximately 170 Tons/year. The calculated emissions for the proposed project are roughly 14 Tons during construction. The Clark County Air Pollution Control District considers any project emitting less than 70 Tons/year to be minor contributors. The AFRC/OMS project PM10 emissions are less than 10 percent of the Valley's emissions and are therefore considered regionally insignificant and de minimus based on current area emissions.

Water application is most often selected as a control measure to reduce fugitive dust emissions during construction projects. The effectiveness of watering to control emissions of fugitive dust depends on the frequency of water application. By watering twice a day, fugitive emissions can be reduced by approximately 50 percent (U.S. Environmental Protection Agency, 1985). Construction of the AFRC/OMS would include application of water twice per day to control fugitive emissions.

Construction related impacts on air quality would occur within a localized area and would only have short-term temporary impacts. Emissions would be mitigated through the use of control measures in accordance with standard construction practices. Trucks used for hauling fill material and site preparation would meet EPA vehicle emissions standards as required.

The potential CO emissions are directly a result of vehicle emissions generated by hauling and placement of the fill materials. Based on a five-year-old fleet of heavy duty diesel trucks with 50,000 miles, CO emissions are calculated to be 10.3 grams per mile. Based on a prior estimate of 28,888 vehicle miles, it is estimated that hauling of the 130,000 cubic yards of fill material from the borrow pit to the project site would generate 656 lbs of CO or

0.328 Tons. Conservatively, doubling this estimate to cover the placement and compaction would result in a projected CO emission level of 1,311 lbs or 0.656 Tons for the total project. This compares to a total annual CO emission level in the of 123,533 Tons per year for the Las Vegas Valley as reported in 1991 (Clark County Health Department). The CO emissions for the AFRC/OMS facility are therefore considered to be at *de minimus* levels for this project.

### **Long-term Impacts**

Movement of the AFRC/OMS facility to Nellis AFB might require reservists to travel further to their Reserve Unit. It is estimated that the relocation of this facility will add 10-miles each way for all site visitors. A maximum of 45 full-time personnel would be expected to operate the facility on a daily basis. Based on a five-day work week, 48 weeks a year, an additional 108,000 miles could be driven by full-time personnel as a result of this move. Reservists visiting the facility on evenings, weekends, or for summer drills could add an additional 71,380 miles to this total, based on the individual reporting requirements for each Branch of the Service. Table 4-1 provides an estimate of the mileage traveled for each military organization. Adverse impacts of this nature can be significantly reduced by the use of car pooling.

Relocation of the AFRC/OMS would have some positive impacts to the air quality of southeastern Las Vegas area. Reduction of military personnel in the area would reduce traffic congestion during peak business hours (evenings and weekends), thereby decreasing vehicle air emissions. Further, those emissions generated by traveling the longer distance would be outside of the highest air pollution area, resulting in a slight improvement to air quality.

Military equipment operation is another area potentially impacting air emissions. The greatest potential source for air emissions is from vehicles in the U.S. Army's 257th Transportation Division. The major vehicle of consequence is the M1070 tractor used to pull

Table 4-1

AFRC/OMS Reserve Staff Mileage

Military Unit	Person Trips	Miles Traveled
U.S. Army	1,669	33,380
U.S. Navy	1,250	25,500
U.S. Marine Corps.	650	13,000
		<hr/>
		71,380

the M1000 trailer for tank transport. Known as a HET, and powered by a Detroit Diesel engine, 96 of these vehicles are assigned to this unit for operation and maintenance. Table 4-2 provides a list of engine emission rates and the current EPA Standards for each pollutant.

The HET vehicle exceeds the current (1994) EPA standards for NO<sub>x</sub> and particulate emissions, with particulate emissions of particular concern in the Las Vegas area. The particulate emissions for these vehicles are approximately four times the EPA limits established for this vehicle. The NO<sub>x</sub> emissions are almost twice the allowable limit, but the Department of the Army (DA) has an exemption for these vehicles. The limited operational usage of these vehicles for two hours per month would only produce approximately 238 GMs of NO<sub>x</sub>.

Operations of these vehicles are allowed, however, as a result of a memorandum of understanding (MOU) established between the EPA and DA on October 4, 1988, representatives from the EPA and U.S. Army Tank and Automotive Command (TACOM) agreed to a National Security Exemption (NSE) for the DA Tactical Vehicle Fleet. The HET vehicle is a part of this fleet. The MOU allows the DA to procure the HET vehicles for Fiscal Years 1991 through 1995 under the EPA standards established for 1991 vehicles. The HET vehicle meets the 1991 standards.

The impact of emissions from these vehicles, although in some cases exceeding current EPA Standards, must be considered small, due to the limited operations of the vehicles and engines. It is anticipated that the greatest use of these vehicles would be during summer drill periods. Therefore, due to the limited and intermittent operation of these vehicles (less than two hours per week), air emissions impacts are considered to be less than significant.

#### 4 1.2 Noise

Construction of the AFRC/OMS facility would create both short-term and long-term impacts as discussed below:

Short-term noise effects during construction would not produce long term affect on the



Table 4-2

Detroit Diesel 8V-92TA Engine Emissions\*

Parameter	EPA Requirements**	Measured Emissions
Hydrocarbons	1.3	0.66
Carbon monoxide	15.5	4.0
NOx	5.0	9.9
Particulates	0.1	0.39

\* GM/BPH-Hr

\*\* EPA 1994 Standards

residents of Caffarelli Court or persons using the Family Campgrounds. However, as discussed in the long-term impacts section, both residents of Caffarelli Court and personnel using the Family Campground would be negatively impacted during Reserve operations involving the use of the HET vehicles.

#### **Short-term Impacts**

Noise levels for the short term would be expected to increase due to the use of heavy machinery and general construction activities although the noise levels would remain consistent with the areas' use. These increased noise levels are expected to be of short duration and limited to daytime, weekday hours. Due to the temporary nature of these noises, and the limited daytime, weekday occurrence, their impact is considered to be less than significant.

#### **Long-term Impacts**

The long-term noise impacts are considered to be of a greater concern due to the proximity of the proposed site to the Caffarelli Court Mobile Home Park and the recreation area (Family Campground) to the west. Caffarelli Court mobile homes are approximately 400 feet to the southwest of the proposed site at the nearest point. The Family Campground is slightly further away, but there are plans to expand the campground area closer to the AFRC/OMS facility. Peak activities for both the camp ground and AFRC/OMS occur on weekends.

The primary noise source of concern is the HET vehicle. The Detroit Diesel engine powering these vehicles produce intense noise levels of varying octaves. Personnel operating these vehicles normally wear hearing protection devices because of the noise levels generated. Initial calculations show noise generation levels, as they reach Caffarelli Court, to be close to or exceed noise limits for the area. Operations would normally be limited to daytime

hours.

Noise data for the HET vehicles range from 76 dBA at idle to 85 dBA at 1450 RPM to 99 dBA at the maximum noise level. Noise data was provided by OshKosh Truck Company.

Although noise generated from the HET vehicles individually might be acceptable, the U.S. Army has indicated that up to 24 HET vehicles would be operating at the same time. Calculation of noise attenuation over distance may be calculated by two different methods: either as a point source or a line source. With the vehicles parked in a line, the sound wave could perform as a line generator with 24 HET vehicles running and act as a line generator for receptors close to the source. Twenty four HETs parked in a line would extend 250 feet across the line. Using 24 single sources generating 85 dBA acting as a line source is the equivalent of a single source generating 98 dBA. At a distance of 410 feet, this would equate to 78 dBA impacting Caffarelli Court at the closest point.

Calculating noise for a point source produces a lower dBA result, but calculations using either method, are very close to or exceed Clark County Noise Ordinance Standards (55 dBA maximum limit for night-time operations).

Discussions with Clark County Planning Commission representatives indicate that the County considers enforcement of County noise regulations at Nellis AFB beyond their limit of authority and not of their concern. Discussions with EPA however, indicated that President Carter signed Executive Order 12088 in 1978, entitled "Federal Compliance with Pollution Control Standards." This Executive Order states:

"The head of each Executive Agency is responsible for compliance with applicable pollution control standards, including those established pursuant to, but not limited

to the following:

The Noise Control Act of 1972 (42 U.S.C., 4900 et. seq.)."

Further, in June 1980, a Federal Interagency Committee on Urban Noise (FICUN), published "Guidelines for Considering Noise in Land Use Planning and Control. The Department of Defense was one of the primary Federal agencies participating in the Interagency Committee. This report defines suggested land use compatibility guidelines for various noise zone classifications and acceptable noise level limits for various uses. The FICUN report considers the location of mobile home parks or trailer courts in noise zones above  $L_{dn}65$  as not compatible and should be prohibited.

The  $L_{dn}$  scale is the day-night sound level measurement and is the A-weighted equivalent sound level for a 24-hour period with an additional 10 dB weight imposed on the equivalent sound levels occurring during nighttime hours. Because of the limited number of operating vehicle hours, the HET vehicles will not exceed the  $L_{dn}$  values established for the trailer court.

Due to the sound intensity generated by the HET vehicles, the proximity of these vehicles to the Caffarelli Court mobile homes and the family camping area, and the fact that the sound levels impacting both areas could be close to or exceed the legal limits, the U. S. Army Corps of Engineers proposes to construct sound barriers along the western and southern perimeter of the proposed site. Current plans call for the construction of a block wall, approximately nine-feet high.

The U. S. Department of Transportation, Federal Highway Administration has developed standards for noise barrier design and published this information in the "Noise Barrier Design Handbook" (U. S. DOT, 1976). Effective design of noise barriers must include an evaluation of the height of the noise generator as well as the attenuation capabilities of the barrier materials. The DOT handbook calculates the noise attenuation or transmission loss factors for a cinder block wall (hollow core) to be 28 dBA when applied to a generalized truck noise spectrum.

Noise generated from the HET vehicles as it impacts Caffarelli Court with the sound attenuation wall could be reduced to 50 dBA (78 dBA -28 dBA) for a line source. These calculations are based on the fact that vehicles would be parked facing the cinder block wall, providing the greatest degree of protection for the Caffarelli Court and Family Campground areas.

The proposed sound wall will reduce noise impact levels to Caffarelli Court and the Family Campground areas. Reducing sound levels as they impact these areas to less than 55 dBA would be acceptable and would partially meet Clark County noise ordinances. Noise at the fence line of the AFRC/OMS could still exceed local standards.

#### **4.1.3 Water**

The potential impacts to water resources in the Las Vegas area as a result of implementing the proposed project are dependent upon the specific water resource selected. Potential impacts to surface water differ from the potential impact to groundwater or water usage. The following subsections will evaluate the potential impact to each water resource.

##### **4.1.3.1 Stormwater**

The proposed AFRC/OMS facility planned for Area III of Nellis AFB would be constructed similarly to the site conceptual design as illustrated in Figure 2-3. An integral part of the proposed design is the installation of two stormwater catchment basins along the northeastern and northwestern portion of the site. Surface water from the AFRC/OMS facility will drain into these basins and remove approximately 16.5 acre-feet of surface water runoff to the Las Vegas Wash. This should be considered a slightly beneficial impact to potentially reduce, by some small degree, area flooding that might result from surface



water runoff.

#### 4.1.3.2 Groundwater

The construction of the proposed AFRC/OMS facility will require fresh water supplies for normal operations and fire suppression systems. No groundwater wells are planned for the proposed facility. At the present time, the U.S. Army Corps of Engineers proposes to use the City of North Las Vegas for domestic water supply and for maintaining minimal water pressures for fire flow requirements.

Water supplies for the City of North Las Vegas are partly derived from area groundwater wells. The proposed project would not be considered a new user of water resources. Water demands for the new facility should be of a similar requirement as the current AFRC facility. Therefore no significant impact to groundwater is expected.

#### 4.1.3.3 Water Use

The AFRC/OMS facility could potentially impact water usage in the immediate area of Nellis AFB, depending on its ultimate source of fresh water. Although Nellis AFB does not exceed its allotment of 4,000 acre-feet of water per year, during the summer months it does exceed its maximum draw rate.

Water use can be divided into two categories; normal week day use and peak summer consumption. The normal week-day staff could total up to 65 persons for all Branches of the service. Water usage is a total of all water consumed, whether for drinking, personnel hygiene, or for cleaning purposes. It is estimated that each individual would use 70 gallons/day per person. Normal week-day usage could amount to a total of 4,550 gallons/day or 136,000 gallons/month.

Consumption of water should reach its peak during summer months when the maximum

number of Reservists would be in the area for summer drills. The U. S. Army Reserve activity could reach a peak of 233 Reservists, the U. S. Navy a peak of 260, and the U. S. Marine Corps a peak of 60. Although it is not anticipated that all units would be in the field at the same time, it is possible that the Marines could be in the field at the same time as one of the other Service organizations, bring the potential number of people in the field up to a maximum of 320. Using the same water usage factors of 70 gallons/person/day, an estimated that 22,400 gallons/day could be consumed. Since field operations are of a limited duration (normally less than two weeks), it is calculated that a total of 313,600 gallons of water could be consumed over the two-week period.

Current designs call for water to be supplied by the City of North Las Vegas. The proposed AFRC/OMS facility would tie into existing potable water pipelines south of the proposed site. This would allow for construction of the proposed facility without the need to install a water storage/pressure systems to ensure that fire flow pressure to existing users is maintained. Regardless of which source is selected to supply water, the construction and operation of the proposed facility is not considered a new water user in the Valley. Existing personnel working in the AFRC/OMS facility should consume similar amounts of water when relocated to the proposed Nellis AFB location, therefore there is no significant impact.

#### 4.1.3.4 Waste water

The proposed AFRC/OMS plans to tie into an existing Clark County sanitary sewer system in the Nellis AFB area. Currently, two alternatives exist for the tie in. Proposal No. 1 calls for installation of a new 8-inch pipeline running 4,200 feet to the south and tying into the existing system just to the north of Las Vegas Boulevard. A second proposal calls for construction of a 6-inch pipeline, running 1,400 feet to the east. Construction of either pipeline would have no impact on area cultural or biological resources.

For surface water run off, the proposed AFRC/OMS would submit a NOI, prepare a stormwater pollution prevention plan, and pay appropriate fees at least two days prior to

start of construction as a part of it efforts to obtain a NPDES permit.

An oil/water separator would be installed at the proposed AFRC/OMS facility to collect and process contaminated water collected on site. Specific criteria have been developed by Nellis AFB for the incorporation and usage of oil/water separators on site and the AFRC/OMS must meet these requirements. Operation and maintenance of a oil/water separator system in accordance to Nellis AFB standards should create no adverse environmental impacts.

Therefore the potential impact to waste water are considered insignificant.

#### 4.1.4 Biology

The proposed AFRC/OMS facility will remove approximately 16.5 acres of land for use by area animals. The site will be dominated by three buildings and a parking area for military vehicles and personal vehicles. The site is already heavily disturbed by the previous removal of approximately six-feet of soil/fill materials for the construction of the nearby Nellis Federal Hospital. The site is mostly void of any vegetation, except along the site's perimeter. As a result, the construction of the proposed facility is considered to have no significant impact on area plants or wildlife.

A wetlands evaluation of the proposed site was completed in accordance with the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (referred to as the federal manual). According to the federal manual, three criteria must be met before an area can be identified as a wetland:

- Hydrophytic vegetation
- Hydric soils
- Wetland hydrology.

None of these conditions are encountered at the proposed site, therefore no wetland impact is possible.

#### 4.1.5 Land Use

Area land use near the proposed Nellis AFRC/OMS is considered to be a mix of residential, recreational, and industrial use with the presence of mobile homes, family campground, fuel storage tanks, auto wrecking and salvage operations, railroad spurs, and other military operations nearby.

The Department of Defense and Nellis AFB policy for land use guidance is based on DOD Instruction 4165.57 (1977), which outlines Air Compatibility Use Zones (AICUZ). Each military service has an AICUZ program to investigate, describe, and study noise exposure and land use at all DOD air installations. An AICUZ exists for Nellis AFB. The AICUZ studies for each installation are prepared and given to the public and local, regional, state, and other federal agencies in their land use planning/control. Suggested land use compatibility guidelines state that mobile home parks or trailer courts should not be located in noise zones where the  $L_{dn}$  level exceeds 65 dB. Although the proposed project does not exceed the  $L_{dn}$  limits for a 24-hour period, daytime sound levels as they impact Caffarelli Court could approach this sound level.

Further, Nellis AFB maintains a Base Comprehensive Plan (1991), designed to maintain the quality of life for Air Force personnel. Development of the proposed site as an AFRC/OMS facility could potentially adversely impact the social/psychological condition of Base personnel faced with excessive noise. If noise levels were to exceed the  $L_{dn}$  levels established by the U. S. Air Force for mobile home parks, significant impacts could result.

#### 4.1.6 Traffic

Traffic impacts as a result of implementing the proposed project would remove motor vehicles from the current AFRC/OMS facility on Sahara Blvd. With the major Reserve activity occurring at night and on weekends, Reservists must share road space and limited street parking with area merchants and customers.

Movement of the AFRC/OMS facility to Nellis AFB would increase Nellis area traffic, but predominantly during periods of the day when the roads are not congested. Week day evening meetings would bring Reservists to the Nellis AFB area at a time of day when most traffic is moving in the opposite direction. Week end meetings would bring Reservists to the area in early morning, another period of time with low traffic volumes.

Relocation of the AFRC/OMS to the Nellis AFB area would slightly improve traffic and parking congestion in the immediate area of Sahara Avenue.

#### **4.1.7 Cultural Resources**

As stated previously, the proposed site for the AFRC/OMS is heavily disturbed as a result of excavation of approximately six-feet of soil/fill material over most of the site. Because of this heavy disturbance, no cultural resources exist on the site. Search of archaeological records at the Museum of Natural History, University of Nevada, Las Vegas, indicates no cultural resources at the proposed site. Based on this information, and the general lack of cultural resources in the area, the construction of the proposed project is considered to have no significant impact on cultural resources.

#### **4.1.8 Hazardous Materials Management**

As discussed in Section 2.1, Proposed Action, The U.S. Army Reserve and the U.S. Marine Reserve units would be conducting a wide range of heavy vehicle maintenance operations and training as a major part of their mission. Limited quantities of hazardous materials, motor and lubricating oils, and other controlled substances would be required as a part of normal vehicle maintenance, operation and training.

Changing oil in vehicles at this new facility would create the greatest amount of waste. Oil changes are only conducted when laboratory testing indicates that an oil change is needed.



Based on past experience with the HET vehicle, equipped with the Detroit Diesel engine, approximately one 55-gallon drum of waste oil would be generated every 90 days. A hazardous materials (HazMat) storage area would be built as a part of this new facility with the Army planning to store their own materials. The Army would not transport waste but would utilize Nellis AFB systems for removal of wastes. Table 4-3 provides a list of materials normally expected to be stockpiled in limited quantities at a military operations and maintenance shop.

The U.S. Navy has no current plans for generating any hazardous materials on site. The Reserve unit is considered a zero hazardous materials generator and has only two vehicles: a pickup truck and a van. These vehicles are taken out for servicing. No service training is a part of this Reserve contingent. No storage space has been identified for hazardous materials.

The U.S. Marine Corps would conduct operations similar to those planned by the U.S. Army, but on a smaller scale. The Reserve unit would perform normal vehicle maintenance at the Reserve Center, including oil changes, lubrication, and battery service. No painting or body work would be planned for this facility.

Limited quantities of oil, lubricants, and batteries would be stored on site, utilizing the same storage area as the Army. The Marines estimate that their waste generation rate would be approximately one-third that of the Army, or approximately 18-20 gallons every 90 days. Plans for waste disposal are not finalized, but the Marines would most likely dispose of wastes via the existing Nellis AFB system.

Since the proposed AFRC/OMS facility would be located on Nellis AFB property, USAF environmental guidelines serve as the foundation for the operation and control of facilities using hazardous materials. In the event that U.S. Army or U.S. Marine Corps regulations impose more stringent controls on the management of hazardous materials, the more stringent regulations would be put into effect and Nellis AFB regulations would be met.

**Table 4-3**  
**Hazardous and Controlled Materials**  
**AFRC/CMS**

- a. Aerosol Spray Paint
- b. Antifreeze
- c. Batteries
- d. Brake Fluid
- e. Diesel Fuel
- f. Freon
- g. Gunk Engine Brite
- h. Hydraulic Fluid
- i. Lubricating Oils
- j. Motor Oil
- k. Safety Kleen Solvent
- l. Starting Fluid

For the purpose of controlling hazardous materials, Nellis AFB has developed a plan for managing substances falling under this classification. Known as the "Nellis Air Force Base Plan 12 - Hazardous Waste Management" or NAFB Plan 12, the plan provides guidance and assigns responsibility for proper transport, handling, turn-in procedures and storage of wastes. This document outlines the procedures for the Base to comply with the hazardous waste management provisions of RCRA and applicable state statutes contained in Nevada State Assembly Bill No. 196, 19 February 81, et seq. Sub-divided into Site-specific contingency plans, OMS functions are covered under several categories. The OMS would be guided by the contingency plans for: Wheel and Tire Shop (Annex II-4), Auto Craft (Annex II-17), Vehicle Maintenance Shop (Annex II-34), and Transportation (Annex II-44).

The NAFB Plan 12 provides a comprehensive management plan for the total control of hazardous materials from their arrival on-site to their ultimate disposal. The plan identifies waste generators, initial accumulation points, accumulation sites, and disposal practices. Packaging, labeling, and record keeping are an integral part of waste management. A waste minimization program is also a part of NAFB Plan 12.

Based on the guidelines presented in NAFB Plan 12, and its function as the baseline control for the management of hazardous materials, use of limited quantities of hazardous materials at the AFRC/OMS facility should have no significant impact to the environment.

#### 4.1.9 Hazardous Waste Management

Because of the highly developed waste management system developed at Nellis AFB, and the limited quantities of hazardous waste expected to be generated at the AFRC/OMS facility, it is fully expected that the facility will tie directly into Base operations. This includes: requisitioning all hazardous materials from the Base HAZMART, entry of all hazardous materials into the Base hazardous materials database management system, and utilizing existing Base systems for the tracking and disposal of all hazardous waste.

## **4.2 Alternative No. 1**

Alternative No. 1 to the proposed action would be to build a new AFRC/OMS facility on a smaller 10-acre parcel of land at the same intersection of Range Road and DRMO Road. The potential impact for this alternative are presented below.

### **4.2.1 Air Quality**

#### **Short-term Impacts**

Construction of this alternative to the proposed action would create similar impacts as the proposed project. Fill material would be required due to the need to back fill the entire 10-acre site. It is estimated that this would require the transport of approximately 96,000 cubic yards of fill material. Additional construction activities related to the relocation of the two fresh water pipelines would create additional PM<sub>10</sub> and CO emissions. The emissions of PM<sub>10</sub> and CO are still of primary concern, but are slightly less (10.0 Tons for PM<sub>10</sub> and 0.5 Tons for CO) than the proposed action.

The PM<sub>10</sub> emissions would still be controlled by the application of water during the construction project. Carbon monoxide emissions would be controlled by the use of vehicles meeting EPA requirements of heavy duty trucks.

#### **Long-term Impacts**

Movement of the AFRC/OMS facility to the alternate site would have identical impacts as the proposed action. Permanent staff members would still be required to travel the extra distance (estimated to be 20-miles round-trip) and drive the same number of additional miles. Reservists would also be required to drive the same additional miles as the permanent staff. Table 4-1 provides an estimate of the mileage traveled by each military organization. Air quality in the southeast Las Vegas area would improve slightly as a result of this action,

the same as for the proposed action.. Operation of the military equipment assigned to the alternate site would be identical to the proposed action, therefore the air quality impact would be identical.

Air quality impact as a result of selecting Alternative No. 1 as the site for the AFRC/OMS facility would have no significant impact.

#### 4.2.2 Noise

##### **Short-term Impacts**

Short-term noise levels would be expected to rise sharply, similar to the proposed action, as a result of heavy machinery and general construction activities. These increased noise levels would be of short duration and normally limited to daytime, weekday hours. Since the location of Alternate No. 1 would be further away from the Caffarelli Court mobile homes and the Family camp grounds, the noise levels reaching this area would be slightly reduced. In addition, the Camp ground's heaviest use is on week ends when normally little or no construction activity occurs. The short-term noise impacts would be considered less than significant.

##### **Long-term Impacts**

Long-term noise impacts from Alternative No. 1 would be slightly less than at the proposed project site. The HET vehicles would be parked slightly further from the mobile homes in Caffarelli Court and the family campgrounds which would serve to further attenuate the noise intensity impact on the residents (mobile homes) and campground visitors to the area. The Nellis AFB has already approved the expansion of the Family Campground area to the east. Expansion in this direction would bring the campground closer to the proposed AFRC/OMS resulting in an increased negative impact to this area.



It is estimated that the sound intensity at the camp ground would still be around 50 dB and the same attenuation measures presented for the proposed action to reduce potential impact should also be implemented for Alternative No. 1. The potential noise impact to the camp ground as a result of planned expansion would increase the sound level for this area. Implementation of noise barriers would definitely reduce the impact on the camp ground area, but noise levels could still be an annoyance.

#### 4.2.3 Water

Construction of an AFRC/OMS at the alternative site impacts water differently for one water parameter than the proposed action.

##### 4.2.3.1 Surface Water

The Alternative No. 1 site is considerably more compressed than the preferred action alternative and requires some modification in facility design. Space limitations eliminate the large retention ponds visible at the front of the preferred site thereby increasing the potential for flash flooding in the area. Although this is not considered a significant impact to surface water, the proposed design for the alternative site can not be considered a beneficial impact. Construction of this alternative would have no significant impact on surface water.

##### 4.2.3.2 Groundwater

The construction of the project at the alternative site would have the identical impact as the proposed action. The impact to the area groundwater would remain as stated under the proposed action. No significant impact would be expected to the groundwater.

##### 4.2.3.3 Water Use

The impacts on water use of constructing the alternative to the proposed action would be the

same as for the proposed action. It would still be proposed that water would be supplied by the City of North Las Vegas. The quantity of water used would remain the same and the requirement to maintain pipeline water pressure would still be required.

#### 4.2.4 Biology

Alternative No. 1 to the proposed action would impact only 10 acres rather than the 30 acres of the proposed action. Although the area is highly disturbed, impacting the smaller area would create even less of an impact than the proposed action. Construction of this alternative would have no significant impact on area plant or wildlife.

#### 4.2.5 Land Use

Area land use for Alternative No. 1 is identical to the proposed project site. Confining the AFRC/OMS facility to a 10-acre parcel would place the Reserve facility further from the Caffarelli Court mobile home park thereby reducing the potential adverse land use in the area. Plans have already been approved however, to expand the Family Campground to the east, which would place the camp ground closer to the Reserve center and adversely impact weekend campers in the area. The potential impact to the camp ground is further accentuated by the fact that Reserve activities occur at the same time that the camp ground usage is at its peak, and the sound attenuation for recreational vehicles and tent campers leaves much to be desired. Development of Alternative No. 1 could have the same potential impact as the proposed action. Development of the site could be a significant adverse impact on area campers.

#### 4.2.6 Traffic

Traffic impacts as a result of implementing Alternative No. 1 to the proposed action would have the identical impact as the proposed project. Traffic impacts to the southeast Las Vegas area would improve slightly as a result of decreased military personnel in the area during

peak visitor times (evenings and weekends). This alternative would increase traffic in the Nellis AFB area, but predominantly during the periods of the day when the roads are not congested. The impacts of Alternative No. 1 would be the same as the proposed action and should be considered a slightly positive impact to the southeastern Las Vegas area and of no significance to Nellis AFB.

#### 4.2.7 Cultural Resources

The potential impacts to cultural resources as a result of implementing Alternative No. 1 would have similar impacts as the proposed action. The prior removal of six-feet of soil/fill material from the site, no record of archaeological resources in the Museum of Natural History for the site or in the immediate area, indicate that construction of Alternative No. 1 is considered to have no significant impact on cultural resources.

#### 4.2.8 Hazardous Materials Management

Hazardous materials management under Alternative No. 1 would be identical as for the proposed action. The AFRC personnel at the site would follow the Nellis AFB Plan 12 for the management of hazardous materials, identical to the procedures imposed at the proposed site. The impact as a result of using hazardous materials should not be a significant impact.

#### 4.2.9 Hazardous Waste Management

The hazardous waste management practices for this alternative would be the same as for the proposed action. By following Base procedures for the purchase, tracking, and disposal of hazardous wastes, there should be no impact on the environment.

#### **4.3 Alternative No. 2**

Alternative No. 2 to the proposed action would be to build a new AFRC/OMS facility of approximately 16.5 acres spanning both sides of DRMO Road. The AFRC training facility would be constructed identical to the proposed action at the intersection of DRMO Road and Range Road, on the south side of DRMO Road. The site would occupy approximately 10 acres and would consist of a 68,619 SF two -story training facility having a footprint of approximately 42,000 SF and a 1,152 SF unheated storage facility. A 9,142 SY area for POV parking would also be a part of this site.

The OMS and MEP facilities would be constructed on 6.5 acres north of DRMO Road on land between Range Road and the railroad tracks to the west. The maintenance building would consist of approximately 14,755 SF and the MEP area approximately 15,607 SY. These facilities would be designed to house the same number of vehicles, equipment, and operating facilities as the proposed action.

##### **4.3.1 Air Quality**

##### **Short-term Impacts**

Construction of Alternative No. 2 would create similar short-term impacts to air quality as the proposed project. The same amount of fill materials would be required utilizing the same type and amount of construction equipment. The PM<sub>10</sub> and CO emissions are still of primary concern and are of the same level of significance as the proposed action.

PM<sub>10</sub> emissions would still be controlled by application of water twice each day during the construction project. Carbon monoxide would be controlled by the use of vehicles meeting EPA requirements for heavy duty trucks.

### **Long-term Impacts**

Movement of the AFRC/OMS facility to this alternative site would have identical impacts as the proposed action. Permanent staff members would still be required to travel the extra distance (estimated to be 20-miles round-trip) and drive the same number of additional miles. Reservists would also be required to drive the same additional miles as permanent staff. Table 4-1 provides an estimate of the mileage traveled by each military organization. Air quality in southeast Las Vegas would improve slightly as a result of this action.

Operation of the military equipment assigned to the site would be identical to the proposed action, therefore the air quality impact would be identical.

Air quality impacts as a result of selecting Alternative No. 2 as the site for the AFRC/OMS facility would have no significant impact.

#### **4.3.2 Noise**

### **Short-term Impacts**

Short-term noise levels would be expected to rise sharply, identical to the proposed action. This as a result of heavy machinery and general construction activities at the AFRC facility. These increased noise levels would be of short duration and normally limited to daytime, weekday hours. The construction of the new OMS and MEP facilities would have a lesser impact on the residents of Caffarelli Court and the Family Campgrounds, since the site is approximately 1,500 - 2,000 feet further from inhabited areas. In addition, the Campgrounds heaviest use is on week ends when normally little or no construction activity occurs. The short-term noise impacts would be considered less than for the proposed action.



## **Long-term Impacts**

Long-term noise impacts from Alternative No. 2 would be less than the proposed project site due to maintenance operations being further removed from inhabited areas. The HET vehicles would be parked and maintained north of DRMO Road, approximately 1,500 - 2,000 feet from the Family Campground and Caffarelli Court. This would serve to further attenuate the noise intensity as it would impact on the residents and campground visitors to the area.

It is estimated that the sound intensity at the Campground would be around 35 - 42 dB depending on the location of the operating HETs. Selection of this alternative would reduce the noise in the inhabited areas and potentially reduce the need for noise attenuation measures.

### **4.3.3 Water**

Construction of Alternative No. 2 would have the same impact to water as for the proposed action.

#### **4.3.3.1 Surface water**

Alternative No. 2 creates the same impacts for the AFRC facility as the proposed action. The same retention ponds will be built with the same degree of runoff expected. Similarly, construction of the new OMS facility north of DRMO Road will have the same impacts as construction of this facility south of DRMO Road. Construction of this alternative would have no significant impact on surface water.

#### **4.3.3.2 Groundwater**

The construction of this alternative would have the identical impact as the proposed action.

The impact to the area groundwater would remain as stated under the proposed action. No significant impacts would be expected to the groundwater.

#### 4.3.3.3 Water Use

The impacts on water use for Alternative No. 2 would be the same as for the proposed action. It would still be proposed that water would be supplied by the City of North Las Vegas. The quantity of water used would remain the same and the requirement to maintain pipeline pressure would still be required.

#### 4.3.3.4 Waste water

Alternative No. 2 would have the same impacts to waste water as the proposed action. The same permit applications, pollution prevention plans, and permit fees would be required for this alternative. No additional area would be disturbed for connection to sewer pipelines as the proposed action. No impacts would result from this action.

#### 4.3.4 Biology

Alternative No. 2 to the proposed action would have similar impacts to the proposed action. Construction of the new AFRC facility south of DRMO Road would be identical to the proposed action. The area is highly disturbed and contains little vegetation. No species of concern are found on this site. Construction of the new OMS facility north of DRMO Road will have no impact on protected species of plants or animals. The site contains a few creosote bushes and saltbushes, neither of which are protected nor of special value. Construction of the OMS facility on this site will have no significant impact.

#### 4.3.5 Land Use

Land use in the area north of DRMO Road is classified as industrial and readily visible by

the lack of residential or recreation areas. North of the site are industrial facilities including: auto wrecking and salvage operations, railroad spurs, and other military operations. Fuel storage tanks are to the east. Development of Alternative No. 2 would have less impact than the proposed action, making the project overall more compatible with the Nellis Base Comprehensive Plan and existing area land use. Development of the site would not be a significant impact.

#### 4.3.6 Traffic

Traffic impacts as a result of implementing Alternative No. 2 to the proposed action would have the identical impact as the proposed project. Traffic impacts to the southeastern Las Vegas area would improve slightly as a result of decreased military personnel in the area during the peak visitor times (evenings and weekends). This alternative would increase traffic in the Nellis AFB area, but predominantly during periods of the day when the roads are not congested. The impacts of Alternative No. 2 would be the same as the proposed action and should be considered as a slightly positive impact to the southeastern Las Vegas area and of no significance to the Nellis AFB area.

#### 4.3.7 Cultural Resources

The potential impacts to cultural resources as a result of implementing Alternative No. 2 would have similar impacts as the proposed action. The site for the OMS facility also shows no cultural resources present. The prior removal of six-feet of soil/fill material from the site, no record of archaeological resources in the Museum of Natural History for the site or in the immediate area, indicate that construction of Alternative No. 2 is considered to have no significant impact on cultural resources.

#### 4.3.8 Hazardous Materials Management

Hazardous materials management under Alternative No. 2 would be identical as for the

proposed action. The AFRC personnel at the site would follow the Nellis AFB Plan 12 for the management of hazardous materials, identical to the procedures imposed at the proposed site. The impact as a result of using hazardous materials should not be a significant impact.

#### **4.3.9 Hazardous Waste Management**

The hazardous waste management practices for this alternative would be the same as for the proposed action. By following Base procedures for the purchase, tracking, and disposal of hazardous wastes, there should be no impact on the environment.

#### **4.4 No Action**

Under the no action alternative, the U.S. Army Reserve, the U.S. Navy Reserve, and the U.S. Marine Corps Reserve would continue to use the same facilities in downtown Las Vegas (Taylor Street) as they are currently using. Overcrowding conditions would continue to exist, further contributing to the overcrowding at the AFRC and negatively impacting parking and traffic conditions in downtown Las Vegas. Further, the no action alternative would be contrary to the mission of the U.S. Army and U. S. Marine Corps to form two new service units within the complex.

##### **4.4.1 Air Quality**

#### **Short-term Impacts**

The no action alternative would eliminate the construction of the new AFRC/OMS facilities, thereby eliminating the short-term impacts to air quality resulting from construction. The  $PM_{10}$  emissions from construction would not be present nor the CO emissions from heavy equipment operations. There would be no impacts to short-term air quality as a result of no action.

## **Long-term Impacts**

The no action alternative would have the effect of increasing air emissions in the Las Vegas area as a result of the AFRC/OMS presence at the southeastern city limits. The population explosion in the area and increased tourism continue to adversely impact traffic congestion in the area, forcing vehicles to idle longer and increase the resultant pollutants to the air. The no action alternative would continue to adversely impact air quality in the city limits for all priority pollutants, with the possible exception of  $PM_{10}$ . Continued operation of the AFRC/OMS facility in southeastern Las Vegas is considered as an adverse impact to air quality.

### **4.4.2 Noise**

#### **Short-term**

The no action alternative would eliminate the short term noise impact created as a result of constructing the new AFRC/OMS facility at Nellis AFB. No heavy truck equipment would enter the area with back fill materials and no construction noises would be created.

#### **Long-Term**

Under the no action alternative, no HET vehicles would be relocated to the Nellis AFB area and there would be no long-term noise impacts to the nearby Caffarelli Court mobile homes or Family Camp ground.

### **4.4.3 Water**

The no action alternative would totally eliminate any impact to the groundwater or water use in the immediate area of Nellis AFB. The same amount of water would still be consumed, only at the Taylor Street facility.



Potential flooding as a result of surface water runoff would not be reduced in any manner, therefore this would be considered a negative impact.

#### 4.4.4 Biology

Elimination of the proposed AFRC/OMS in Area III would totally eliminate any construction related to the planned facility and leave 30-acres for native plants and wildlife. Due to the previous site excavation, the development of the site as a natural habitat is quite limited.

#### 4.4.5 Land Use

The no action alternative will have no impact on land use. The site would remain available for future development, most likely for development as an industrial site.

#### 4.4.6 Traffic

The no action alternative would have a negative impact on overall traffic in the Las Vegas area. Congestion would continue to increase within the Las Vegas city limits, contributing to traffic delays and air pollution. No impact would occur in the area of Nellis AFB.

#### 4.4.7 Cultural Resources

The no action alternative would have no impact on cultural resources since no activity would occur at the Nellis AFB site.

#### 4.4.8 Hazardous Materials Management

Hazardous materials management under the no action alternative would continue in the same manner as is currently conducted by the AFRC/OMS in accordance with Army and Marine Corps requirements.

#### 4.4.9 Hazardous Waste Management

Hazardous waste management under the no action alternative would continue in the same manner as is currently conducted by the AFRC/OMS facility in accordance with Army and Marine Corps requirements.

## 5.0 CONSULTATION AND COORDINATION

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## 7.0 REFERENCES

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September, 1985

**RESPONSES TO COMMENTS FOR THE  
ENVIRONMENTAL ASSESSMENT  
FOR THE PROPOSED  
ARMED FORCES RESERVE CENTER/  
ORGANIZATIONAL MAINTENANCE CENTER  
AT  
NELLIS AIR FORCE BASE**

**DATED DECEMBER 1995**

## **RESPONSES TO COMMENTS TO THE ENVIRONMENTAL ASSESSMENT FOR THE ARMED FORCES RESERVE CENTER DATED DECEMBER 1995**

**Responses to comments from HQ USARC dated 2 April 1996**

### **1. Specific Comments on subject EA.**

#### **Comment:**

a. Change all references for 63d Armed Forces Reserve Command (ARCOM) to 63d Regional Support Command (RSC).

#### **Response:**

The name change has been applied where practical, figures and tables still reflect the old name. A note has been added to the cover sheet stating the name change and that for this document the names are used interchangeably.

#### **Comment:**

b. Page ES-2, last paragraph, 2d sentence: "alternative" instead of "alternatively".

#### **Response:**

The sentence now reads "This alternative would ...".

#### **Comment:**

c. Page 1, 1st paragraph, line 5: "were built" instead of "was built".

#### **Response:**

The sentence now reads "... were built for the U.S. Army...".

#### **Comment:**

d. Section 3.3.2: Does NAFB have a Well Head Protection Plan? If so, is the proposed action consistent with this plan?

#### **Response:**

There is a Well Head Protection Plan for NAFB monitoring wells, but there are no monitoring wells in the project vicinity. Cal-Nev and Texaco also have wells in the area, but none of their wells are on the west side of Range Road. There are no production wells in the project area.

**Comment:**

e. Section 3.3.4: Does NAFB have a stormwater permit? Would the proposed AFRC be covered by this permit? Generally, tenant commands are included in base permits.

**Response:**

Yes, NAFB has a stormwater permit, and yes the AFRC would be included with the base permit.

**Comment:**

f. Section 3.4: Lists of state and federal endangered species should be included. Also, the 99th Air Base Wing (ACC) should receive a letter giving U.S. Fish and Wildlife Service (USFWS) concurrence with project. The referenced USFWS letter applies only to existing structures.

**Response:**

Lists of state and federal endangered species is added at the end of this appendix. The referenced Biological Opinion addressed a less disturbed area to the northwest of the proposed action, which was determined not to be desert tortoise habitat. The Nellis staff biologist has performed a 100 percent survey on 7 Sept 1995 and no evidence of desert tortoise was found. A "no effect" determination was made and further consultation with USFWS is not required for this action.

**Comment:**

g. Section 3.7: Recommend obtaining a letter from the state Historic Preservation Office concurring that development at any of these sites would have no effect on cultural resources.

**Response:**

The Nevada State Clearinghouse provided the EA to SHPO for review and approval. SHPO replied with a letter to the clearinghouse stating they had no comments for the project.

**Comment:**

h. Section 3.8: This could be worded more clearly. do all activities, including non-USAF, order material through HAZMART? Or, are all shipments onto base logged into the system?

**Response:**

All activities order material through HAZMART and are logged into the system.

**Comment:**

i. Section 3.9, line 8: "Waste is segregated" not "Waste management is segregated."

**Response:**

The existing statement is correct, waste management is segregated by waste type. The sentence now reads "Waste is segregated and managed according to waste types..."

**Comment:**

j. Section 3.9: What are the "Base practices" and "Base requirements" for hazardous waste disposal? Reference a specific instruction.

**Response:**

Nellis Air Force Base Plan 12 - Hazardous Waste Management provide guidance and assigns responsibility for proper transport, handling, turn-in procedures and storage of wastes.

**Comment:**

k. Section 4.1.1:

- (1) A record of Non-Applicability is required. This is independent of NEPA, but should be note in EA.
- (2) Complete Emissions Analysis is required. This should include emissions calculations, procedures for determining emission, specific references to AP-42 emission factors, and analysis of direct and indirect emissions.

**Response:**

- 1) A record of Non-applicability is attached following this appendix.
- 2) The short term emissions analyses contained in the document for PM10 and Carbon Monoxide are adequate since PM10 and CO are in non-attainment and where other emissions are in attainment. A formal Conformity Analysis is not required because emissions are below de minimis levels.

**Comment:**

l. Section 4.1.2: Delete the sentence including "short-term impacts would not have a long term affect..."; that is why they are called short term impacts.

**Response:**

In general, a loud noise event over a short period of time could cause long-term effects (deafness or other hearing damage). The construction noise would not



be sufficient to cause long term effects on the neighboring areas. The sentence now reads "Short-term noise effects during construction would not produce long term effects on the residents..."

**Comment:**

m. Table 4-3: Either change column spacing, or change table layout to landscape vice portrait, so the rows do not wrap to a second line. Also, chart should be more clearly labeled.

**Response:**

Table 4-3 was not relevant and is removed from the document.

**Comment:**

n. Section 4.1.3.1: This paragraph describes stormwater. Surface water refers to an identifiable water body (i.e., lake, river, creek, etc.), not runoff. What is the volume of the catchment basins? How does this compare to runoff expected from various levels of rainfall? This paragraph implies that the area currently floods ("potentially reduce...area flooding"). How often does it flood? Any problems expected from contamination of stormwater by the activities at the AFRC/OMS?

**Response:**

The title of the paragraph now reads "Stormwater". The first sentence now reads "...as illustrated in Figure 2-3." At the time of this writing the exact volume of the catchment basins is not known. The design will be sufficient to remove 16.5 acre-feet of water. Flooding occurs in many areas of the Las Vegas Valley because the soil is caliche, which is very hard, actually a form of cement, and has poor infiltration qualities. Large culverts and catchment basins exist throughout the area to alleviate flooding problems. The annual precipitation is approximately four inches, the majority falls in the summertime during thunderstorms. The catchment basins would drain off stormwater, and it is not expected the activities would cause contamination to stormwater.

**Comment:**

o. Section 4.1.3.4: What are the requirements for an oil/water separator? Cite a reference. Does the separator discharge to sanitary sewer? If not, will NPDES permit be applied for? Stormwater discussion should be consolidated with Section 4.1.3.1.

**Response:**

An oil/water separator is required by Clark County Resolution 92-012. The regulation governs grease and oil from discharging to the sanitation sewer facilities. Yes, oil/water separators generally discharge to the sanitary sewer, if the discharged to the storm drain then an NPDES permit would be required. The second paragraph of section 4.1.3.4 now reads as the last paragraph of section 4.1.3.1.

**Comment:**

p. Section 4.1.7: As noted previously, letter from SHPO should be included.

**Response:**

See response to Specific Comment 1.g.

**Comment:**

q. Section 4.1.8: Second paragraph, second and third sentences should be reworded, perhaps combined. (For example, "Oil changes are only conducted when laboratory testing indicates that an oil change is needed").

**Response:**

The sentence now reads "Oil changes are only conducted when laboratory testing indicates that an oil change is needed".

**Comment:**

r. Section 4.2.7: A letter of concurrence from SHPO should be included.

**Response:**

See response to Specific Comment 1.g.

**Comment:**

s. Section 4.3.7: A letter of concurrence from SHPO should be included.

**Response:**

See response to Specific Comment 1.g.

**Comment:**

t. Section 5.0: The USFWS (and/or Nevada Game and Fish), Nevada Bureau of Air Quality, SHPO should have been consulted.

**Response:**

The USFWS does not require consultation, see response to Comment # 8. Air pollution consultation goes through the county office in Las Vegas and the Clark County Health District, Air Pollution Control District was consulted. SHPO has reviewed the draft EA.

**2. General Comments to the EA****Comment:**

According to the National Environmental Policy Act, an EA must address alternatives to the proposed action, including the no action alternative. However, the Alternative Actions in this EA are variations in the layout of the facility at the same location, not true alternatives. Even though other factors may dictate use of the proposed site, a proper EA should evaluate an alternative location, such as one of the sites examined by the Site Selection Committee.

**Response:**

In general, different sites would be included and analyzed as alternatives. In this case, the internal draft of the EA identified alternate sites as examined by the Site Selection Committee. These sites were all ten acre sites, one on the north side of Range Road, another on the north side of DRMO road (see alternative 2) and ten acres on the proposed site (Alternative 1). These sites were based on an area of 10 acres for the reserve center. As time went on, the Army Reserve identified the requirement for more area, 16.5 acres total. The Range Road site would not accomodate the additional area and the DRMO site was combined with the original ten acre proposed site. Therefore, the alternative sites which were distinct alternative locations have evolved to the present alternatives.

**Responses to comments from HQ ACC/CEVA dated-Original date Mar 1996, retransmitted 7 June 1996, 2 April 1996**

**1. Specific Comments on subject EA.**

**Comment 1:**

Page 3, para 2, 5th line: Change AFR 19-2 to Air Force Instruction 32-7061.

**Response:**

The sentence now reads "Air Force Instruction (AFI) 32-7061 implements NEPA ..."

**Comment 2:**

Page 37: Remove Figure 3-2

**Response:**

Removing the figure would repaginate the whole document. The figure does not detract from the document and it does indicate a trend of decreasing CO emissions rate.

**Comment 3:**

Page 39, para 2: How can it be intermittent if it is an average dB.

**Response:**

The sentence now reads "...noise exposure levels up to 70 dB in intensity."

**Comment 4:**

Page 41. Table 3-1: Already say we have noise levels of 70 dBA, then we are already in exceedance before this action takes place. What scale is this table in Hz per second (ed. note Hz already has units of time [cycles/sec])? Our noise expert suggests contacting the Clark County Airport Overlay District (if available) for more compatible noise levels in this area.

**Response:**

Leave table in per telephone conversation with Sheryl Parker, HQ ACC/CEVA on 24 Jul 96.

**Comment 5:**

Page 42, Table 3-2: What is your source?

**Response:**

Physics, Principles with Application, Third Edition, Prentice Hall, 1992.

**Comment 6:**

Page 49, Figure 3-7: Not necessary. Just state that the site has been used as a dumping found (sic) by area visitors (as already written in document).

**Response:**

See comment 2 above.

**Comment 7:**

Page 59, Para 1, line 4: It is less than 14 tons during construction, not per year. Once construction completed, won't be generating (at least this amount).

**Response**

The sentence now reads ... are roughly 14 Tons during construction."

**Comment 8:**

Page 59, Line 4, 170 Tons Per Year): Check this number, this seems really low to me.

**Response:**

170 TPY OK.

**Comment 9:**

Page 59, Para 3: This paragraph which discusses reduction of PM10 during construction through water application should go into Para 2.

**Response:**

Done.

**Comment 10:**

Page 65, Table 4-3: What do these numbers represent, i.e. inside the HET? What is dBB? These numbers are AIs (similar to SELs) which are not the same levels for comparison to the AICUZ which is given in Ldn. For ground sources  $Ldn + (sic, should be =) AL + 10\log(Dd + 10 Dn) - 49.4$ , where Dd equals the event duration in seconds daytime and Dn equals the event duration in seconds nighttime.

**Response:**

Table 4-3 is not necessary and removed from the document.

**Comment 11:**

Page 72, 3rd Para: How can you say land use would change when it is already designated as industrial use in the first place?



**Response:**

The document does not directly state the land use will change. The mixed zoning should consider all of the land uses in the area, residential, recreation and industrial. Although the area is primarily industrial, increased noise from the AFRC/OMS would impact the residential and the recreational users of the land.

**RESPONSES TO COMMENTS TO THE ENVIRONMENTAL ASSESSMENT  
FOR THE ARMED FORCES RESERVE CENTER DATED DECEMBER 1995**

**Responses to comments from Nevada Division of Environmental  
Protection through Nevada State Clearinghouse dated 1 March 1996.**

**Comment:**

The proposed site appears to be free of hydrocarbon contamination.

**Response:**

Soil borings were taken at the proposed site and sampled for hydrocarbon contamination. The results confirms hydrocarbon contamination. The results are attached to this appendix.

**Comment:**

It should be noted that the ground water contamination from hydrocarbons does exist beneath the CAL-NEV fuel farm east of the proposed location.

**Response:**

Paragraph 3.3.4 is renamed Water Quality. The following paragraph is added to the end of section 3.3.4.

"There are no groundwater monitoring wells in the proposed and alternative locations. Known ground water contamination of the shallow aquifer exists across and down gradient. Across Range Road east of the proposed location, ground water contamination from hydrocarbons does exist beneath the CAL-NEV fuel farm."

## ATTACHMENTS TO RESPONSES TO COMMENTS

ATTACHMENT	SUBJECT
1.	List of Endangered Species within or Near Nellis AFB
2.	Record of Non-Applicability
3.	Soil Boring Results

## **ATTACHMENT 1**

### **LIST OF ENDANGERED SPECIES PRESUMED OR KNOWN TO OCCUR WITHIN OR NEAR NELLIS AFB**

Table 3-5

Endangered and Threatened Species Presumed or Known to Occur  
Within or Near Nellis AFB

Group	Scientific Name	Common Name	Federal	Status <sup>1</sup> State	County <sup>2</sup>
Plants	<i>Astragalus oophorus</i> var. <i>clokeyanus</i>	Milkvetch	C1	CE	CL
	<i>Opuntia whipplei</i> var. <i>multigeniculata</i>	Whipple's prickly pear	C1	CE	CL
	<i>Sphaeromeria compacta</i>	Sphaeromeria	C1	CE	CL
	<i>Synthyris ranunculina</i>	Kittentails	C1	CE	CL
Fish	<i>Ptychocheilus lucius</i>	Colorado squawfish	E	CE	CL
Reptiles	<i>Xerobates agassizii</i>	Desert tortoise	T	CE	CL
Birds	<i>Falco peregrinus anatum</i>	American peregrine falcon	E	CE	CL
	<i>Haliaeetus leucocephalus</i>	Bald eagle	E	CE	CL

<sup>1</sup> C1 = Candidate Category 1  
C2 = Candidate Category 2  
T = Threatened  
E = Endangered  
CE = Critically Endangered

<sup>2</sup> CL = Clark

Source: USAF 1991; BLM 1992; USFWS 1990



**ATTACHMENT 2**

**RECORD OF NON-APPLICABILITY AGREEMENT  
BETWEEN US EPA AND THE DEPARTMENT OF THE  
ARMY**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
NATIONAL VEHICLE AND FUEL EMISSIONS LABORATORY  
2565 PLYMOUTH ROAD  
ANN ARBOR, MICHIGAN 48105

FEB 16 1996

Mr. Raymond J. Fatz  
Acting Deputy Assistant Secretary of the Army  
(Environment, Safety, and Occupational Health)  
Department of the Army  
Office of the Assistant Secretary  
Washington, D.C. 20310

OFFICE OF  
AIR AND RADIATION

Dear Mr. Fatz:

This will respond to your letter dated September 29, 1995, to Mr. Charles N. Freed, Director of the former Manufacturers Operations Division of the Environmental Protection Agency's (EPA) Office of Mobile Sources<sup>1</sup>, in which you endorsed the September 18, 1995, letter to Mr. Freed from Mr. H. Richard Haines of your office. Mr. Haines' letter forwarded to EPA your revised Conditional Fleetwide National Security Exemptions (NSEs) of 1995 for our review and approval.

This list of conditional NSEs was based on a proposed renewal of an 1988 agreement between EPA and the Department of the Army regarding the U.S. Army Tank-Automotive Command's (TACOM's) future acquisitions of noncomplying heavy-duty engines for tactical vehicles under EPA's longstanding NSE program. This 1988 agreement expired at the end of 1995; EPA and TACOM have been working on an appropriate renewal of this agreement.

After our review of your submission, we have now approved 1) the Conditional Fleetwide NSEs of 1996 and 2) a renewal of the agreement ("Guidelines for National Security Exemptions of Motor Vehicles and Motor Vehicle Engines FY 1996 to FY 2000), with some modifications to the final terms of these documents which were the result of discussions between my staff and Mr. Thomas Landy of your office. We have enclosed a copy of the Conditional NSE list and the Guidelines for your information. We offer below some discussion on the background of our decision to approve this new agreement.

On October 4, 1988, EPA sent a letter to you (copy enclosed) outlining the NSE guidelines applicable at that time. Representatives from EPA and TACOM developed these guidelines to cover the Department of the Army's (DA) tactical motor vehicle fleet. The guidelines stated (in part):

---

<sup>1</sup> The Office of Mobile Sources (OMS) was reorganized effective October 1, 1995. Under the new organization, the NSE Program will be administered by the Engine Programs and Compliance Division, which I direct. Mr. Freed is now Director of the Fuels and Energy Division of OMS.

These NSE guidelines shall be in effect through 1995. Prior to the expiration date of this agreement, EPA and DA representatives will review current technology regulations with a view toward entering into an extension or amendment of this agreement to cover a succeeding period.

The 1988 guidelines gave EPA review criteria for decisions on NSE requests and expedited DA's NSE procurement process. Because the process outlined in the initial guidelines proved successful, EPA believes it is appropriate to implement similar guidelines for DA's tactical motor vehicle fleet for the years 1996 through 2000. After numerous discussions with Mr. Landy of your staff and several other representatives from other departments, EPA and TACOM fashioned the attached guidelines after the previous agreement of 1988, and added new guidelines for longer term contracts. Briefly, these new guidelines provide that when vehicle/engine production runs exceed five years, the DA will investigate the feasibility of improving engine emissions at certain points in the life of the production run, and will commit to implementing any feasible emission improvements unless the tactical vehicle mission objectives would be substantially impaired.

These guidelines outline the procedures and conditions by which DA may submit requests for NSEs to EPA for specific military tactical motor vehicles and their replacement/spare engine requirements. Basically, EPA grants to TACOM a conditional NSE for all vehicles and engines listed in the "Conditional National Security Exemptions of 1996." As TACOM awards or modifies contracts to incorporate NSEs from the list, the vehicle/engine manufacturer awarded the contract will write to EPA requesting the transfer of TACOM's NSE. After TACOM notifies EPA in writing that it awarded the manufacturer the contract and lists the number of vehicles and engines involved, EPA will transfer the NSE to the manufacturer.

EPA and TACOM decided not to include three tactical vehicles (HEMTT, LVS, and HETS) in the reprourement section of the "Conditional NSEs of 1996." TACOM has expressed concern that conformity with the NSE guidelines would substantially impair the tactical mission objectives of these three vehicles. As a result, EPA and TACOM are drafting separate NSE agreements for each of these three vehicles. EPA understands that TACOM will continue to investigate the feasibility of compliance with the NSE guidelines for these vehicles, and will implement any emission improvements which may be developed within the applicable standards.

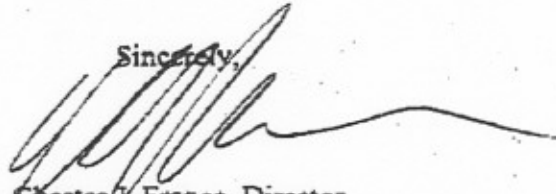
For implementing these agreements, EPA and DA agree that the following terms have the specific meanings set forth below:

- (A) The term "procurement" means contract award.
- (B) The term "reprocurement" means contract award for an existing vehicle or vehicle engine.
- (C) The terms "spare engines" and "replacement engines" have the identical meaning and may be used interchangeably.

- (D) The exercise of an option on a contract for tactical vehicles or vehicle engines should not be considered a contract award as defined in (a) above and consequently should not be considered as procurement or reprocurement.

If you have any questions, please call me at (202) 233-9287 or Ms. Lisa Reiter of my staff at (202) 233-9286.

Sincerely,



Chester J. France, Director  
Engine Programs and Compliance Division

Enclosures

February 12, 1996

**CONDITIONAL NATIONAL SECURITY EXEMPTIONS OF 1996**1) New Tactical Vehicle Configuration Procurement

- a. FMTV -- Multi year procurement for FY91 thru 98 complies with 91 MY standards.
- b. PLS -- Procurement for FY90 thru 97 complies with 90 MY standards.

2) New Tactical Vehicle Configuration Replacement Engines Procurement

- a. FMTV -- Procurement for FY90 thru 96 complies with 91 MY standards.
- b. PLS -- Procurement for FY90 thru 97 complies with 90 MY standards.

3) Reprocurement of Existing Tactical Vehicles

- a. A2-HMMWV -- Procurement for FY95 thru 2000 complies with 95 MY standards. (Procurement for FY2002 thru 2007 complies with 2002 MY standards.)
- b. FMTV -- Multi year procurement for FY99 thru 2003 complies with 99 MY standards.
- c. M917A1 -- Procurement for FY95 thru 98 complies with 95 MY standards.
- d. ESP -- Procurement for FY93 thru 97 complies with 93 MY standards.

4) Replacement Engine Procurement for Existing Tactical Vehicles

- a. A2-HMMWV -- Procurement for FY95 thru 2001 complies with 95 MY standards.
- b. M939A2 -- Procurement for FY95 thru 2000 will be consistent with the vehicle reprocurement and will comply with 91 MY standards.
- c. HEMTT -- Procurement for FY95 thru 99 complies with standards agreed upon between EPA and TACOM based on ongoing investigation.



- d. FMTV -- Multi year procurement for FY99 thru 2003 complies with 99 MY standards.
- e. M915A1 -- Procurement for FY95 thru 2000 complies with MY standards agreed upon at time of contract award.
- f. M917A1 -- Procurement for FY95 thru 98 complies with 95 MY standards.
- g. ESP -- Procurement for FY95 thru 2000 will be consistent with the vehicle reprocurement and will comply with 93 MY standards.

February 12, 1996

**Guidelines for National Security Exemptions of  
Motor Vehicles and Motor Vehicle Engines**  
(from FY 1996 -- FY 2000)

1. **Procedures**

The Department of the Army (DA) will submit requests for National Security Exemptions (NSEs) to the U. S. Environmental Protection Agency (EPA) for specific tactical vehicles or tactical vehicle engines and spare engine requirements. EPA will grant a conditional NSE to the Army for those tactical vehicles or engines, including spare engines, that fit within the guidelines generated and mutually agreed to by EPA and TACOM representatives. Vehicle and/or engine manufacturers who are awarded the contract for procurement will then write to EPA directly for transfer of the Army's conditional exemption to their particular vehicle and/or engine. After TACOM notifies EPA in writing that the manufacturer was awarded the contract and the number of vehicles and engines involved, EPA will transfer the NSE to the manufacturer.

2. **Vehicle Procurement**

**New Tactical Vehicle Configuration** -- Vehicles will comply with emission standards in effect in the first year of vehicle system procurement (e.g., new vehicle procurement in FY 95 must meet 95 model year standards) unless tactical vehicle mission objectives would be substantially impaired.

**Reprocurement of Existing Tactical Vehicles** -- Vehicles will comply with emission standards in effect in the first year of procurement (e.g., vehicle reprocurement in FY 98 must meet 98 model year standards) unless tactical vehicle mission objectives would be substantially impaired.

3. **Replacement Engines**

Replacement engines will meet standards that apply to the latest vehicle procurement or reprocurement (e.g., replacement engines procured in FY 98 must meet 95 model year standards if the latest vehicle reprocurement was in FY 95) unless tactical vehicle mission objectives would be substantially impaired or if engines are no longer physically or functionally interchangeable.

4. **Longer Term Contracts**

For vehicle production runs exceeding five years, DA will investigate the feasibility of improving engine emissions as follows:

- A. DA, through the appropriate Project Manager (PM), will conduct the investigation at specified production breakpoints determined by the PM. The initial investigation should occur no later than five years after the contract



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JUL 4 1988

OFFICE OF  
AIR AND RADIATION

Mr. Lewis D. Walker  
Deputy for Environment, Safety  
and Occupational Health  
Department of the Army  
Office of the Assistant Secretary  
Washington, DC 20310

Dear Mr. Walker:

On May 25 and 26, 1988, representatives from the U.S. Environmental Protection Agency (EPA) and the U.S. Army Tank Automotive Command (TACOM) met to develop guidelines for National Security Exemptions (NSEs) that would cover the Department of Army (DA) Tactical Vehicle Fleet. Specifically, these guidelines would allow DA to plan for future procurement of military tactical vehicles and replacement engines that would be consistent with Section 203(b)(1) of the Clean Air Act. In a letter dated July 18, 1988, you submitted to EPA proposed guidelines and specific applications of these guidelines to the entire fleet of light, medium and heavy tactical vehicles and their replacement engines.

On August 22, 1988, EPA and TACOM representatives participated in a conference call to further discuss the details of these guidelines. At the conclusion of this conference call, common language for these guidelines and its applications were agreed to by EPA and TACOM.

The final version of the guidelines consists of two separate agreements between EPA and DA: 1) Conditional NSEs of 1988 and 2) Guidelines for NSEs. The first agreement grants DA conditional NSEs for the vehicles and replacement/spare engines listed in Enclosure 1. We consider General Flynn's June 29, 1988 letter to be the endorsement of forthcoming exemption requests from motor vehicle/engine manufacturers. If TACOM awards or modifies contracts to incorporate a NSE listed in Enclosure 1, then the vehicle/engine manufacturer who has been awarded the contract will write to EPA requesting transfer of the Army's conditional NSE.

award, unless fewer than 20% of the vehicles remain to be delivered. Subsequent investigations should occur at three year intervals, but no further investigation is required if fewer than 20% of the vehicles remain to be delivered. The PM also will conduct an investigation when advised by the engine manufacturer that the existing engine will no longer be available. The PM will notify EPA when such an investigation has commenced.

- B. The PM will coordinate these efforts within its organization and with the engine manufacturer and/or prime contractor. At a minimum, the PM will request from the engine manufacturer and/or prime contractor any available technical information related to improved engine emissions from the present engine or the availability of a new engine.
- C. The PM will internally assess the feasibility of implementation of any proposed improvements to engine emissions and any effect(s) on vehicle production, cost, fielding, maintenance, logistics, readiness and other mission objectives.
- D. The PM will notify EPA in writing within 120 days of the specified production breakpoint of the results of its investigation, and will include any technical information obtained from the engine manufacturer or prime contractor.
- E. If the PM makes a finding in the report to EPA that an engine with improved emissions performance or other proposed improvements to engine emissions is available, the PM will commit to implementing the recommended improvements unless tactical vehicle mission objectives (including cost) would be substantially impaired.

5. **Renewal of Guidelines**

These NSE guidelines shall be in effect through calendar year 2000. Before the expiration of this agreement, EPA and DA representatives will review current technology and regulations with a view toward entering into an extension or amendment of this agreement to cover a succeeding period of time.

-2-

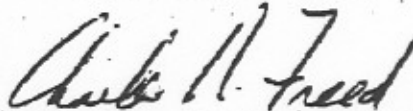
The second agreement is the guidelines for future NSEs which are not covered by the conditional NSEs of 1988 (see Enclosure 2). These guidelines outline the procedures and conditions by which DA may submit additional requests for NSEs to EPA for specific military tactical vehicles and their replacement/spare engine requirements.

For the purpose of implementing these agreements, EPA and DA further agree that the following terms have the specific meanings set out below:

- (a) The term procurement means contract award.
- (b) The terms spare engines and replacement engines have the identical meaning and may be used interchangeably.
- (c) The exercise of an option on a contract for tactical vehicles should not be considered a contract award as defined in (a) above and consequently should not be considered as procurement or reprocurement.

If you have any questions, please call Ms. Mary T. Smith of my staff at (202) 382-2500.

Sincerely yours,



Charles N. Freed, Director  
Manufacturers Operations Division

Enclosures







-2-

- g. EDMET - Procurement for FY 91 thru 95 complies with 91 MY standards.

3. Reprocurement of Existing Tactical Vehicles:

EMMWV - Procurement for FY 88 thru 90 complies with 87 MY standards. Procurement for FY 93 thru 94 complies with 91 MY standards.

4. Replacement Engine Procurements for Existing Tactical Vehicles:

- a. EMMWV - Procurement for FY 88 thru 92 complies with 87 MY standards. Procurement for FY 93 thru 95 complies with 91 MY standards.
- b. CUCV - Procurement for FY 92 thru 95 complies with 87 MY standards.
- c. M939/M939A1 - Procurement for FY 94 thru 95 complies with 88 MY standards. If repowered, will comply with 91 MY standards.
- d. M809 - Procurement for FY 93 thru 95 complies 88 MY standards. If repowered, will comply with 91 MY standards.
- e. M39A1/M39A2 & M44A1/M44A2 - Select option 1 of EPA's September 30, 1987 letter which exempts an additional 16,400 multifuel engines thru CY 92.
1. M39A1/M39A2 - Procurement for FY 88 thru 92 exempt from meeting standards. Procurement for FY 93 thru 95 complies with 91 MY standards.
  2. M44A1/M44A2 - Procurement for FY 88 thru 92 complies with 87 MY standards. Procurement for FY 93 thru 95 complies with 91 MY standards.
- HEMTT ~~X~~ f. M977 - Procurement for FY 88 thru 89 complies with 88 MY standards. Procurement for FY 90 thru 95 complies with 90 MY standards if commercial engines are available and acceptable to DA; otherwise, complies with 88 MY standards.
- g. M915 - Procurement for FY 88 thru 95 complies with 88 MY standards.
- h. M911 - Procurement for FY 88 thru 95 complies with 88 MY standards.

ATTACHMENT 3

SOIL BORING RESULTS

To: Gene Liu  
From: Todd Wilson

RE: Armed Services Reserve Center Soil Borings at Nellis Air Force Base, Nevada.

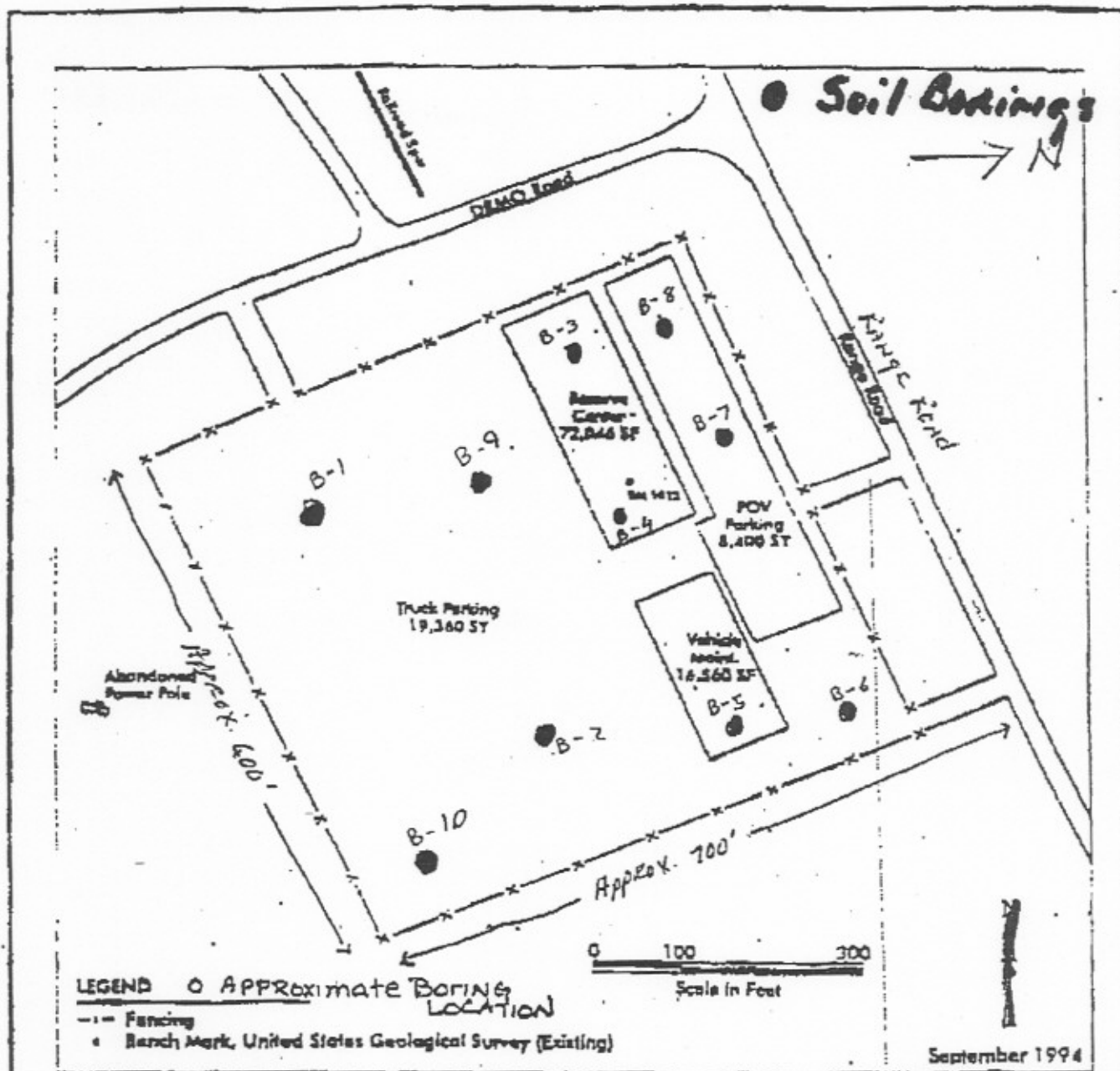
May 17, 1996

1. I have reviewed the data provided by Terracon in support of the Reserve Center at Nellis Air Force Base. All of the analytical data was analyzed by Nevada Environmental Laboratories (NEL) in Las Vegas, Nevada. The scope requested the installation of ten soil borings to be placed within the proposed construction areas. Nine of the soil borings were installed. Soil boring 7 had poor recovery from the sampling tool, and therefore could not be submitted for analysis. The reason for the poor recoveries should be justified within their field notebooks, and their report documentation. Soil boring locations are provided on the conceptual layout diagram.
2. One soil sample from each of the nine soil borings was submitted for analysis by EPA Method Modified 8015 for Total Petroleum Hydrocarbons (TPH), and Volatile Organic Compounds (VOCs) by EPA Method 8240. Samples were collected by Terracon on May 7 and May 8, 1996.
3. In reviewing the laboratory data, it is apparent that no TPH contamination is present in soil borings 1-6 and 8-10. In discussion with Terracon personnel, no staining or indication of contamination is present at the site. Minor detections of xylene are present in sample B-10@0.0 and B-6@5.0. Total xylene concentrations range from 10 to 22 ppb total xylene (all isomers) in these two samples. The total xylene concentration is derived by adding the meta-xylene and o,p-xylene results.
4. Quality Control (QC) data were within required limits. All surrogate recoveries and duplicate analyses were within required limits. Since all QC requirements are within acceptable limits, the data is useable for all intended purposes.
5. Even though several minor detections of xylene are present in the soil boring samples, the concentrations are orders of magnitude below any action level criteria or concentration of concern. Therefore, the site is considered to be clean, and there will be no regulatory concerns resulting from the construction of the Reserve Center and associated facilities at this location due to site contamination.
6. If you have any questions or comments, please contact me at 402-221-7750.

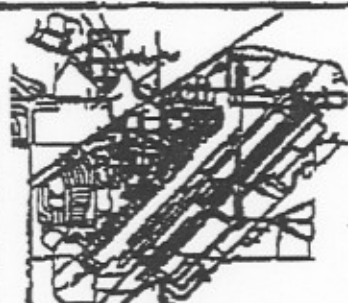
Todd C. Wilson  
USACE Project Chemist

-351





**Site Map (Conceptual Layout)**



Nellis AFB Index Map

**U.S. ARMED FORCES RESERVE CENTER**  
Nellis AFB, Las Vegas, Nevada

Prepared for: 63rd ARCOM

Figure 2-4. Alternative No. 1 site conceptual design

**NEVADA ENVIRONMENTAL  
LABORATORY**

Las Vegas Division  
4208 Arcata Way, Suite A - Las Vegas, NV 89030  
(702) 657-1010 • Fax: (702) 657-1577  
1-800-368-5221

CLIENT: Terracon Consultants  
4343 S. Polaris Ave.  
Las Vegas, NV 89102

ATTN: Delane Fitzpatrick-Maul

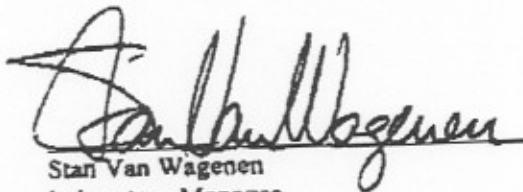
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

NEL ID: L9605064

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project on 05/07/96 were received in good condition and under chain of custody. Unless otherwise noted, no anomalies were associated with this project.

Should you have any questions or comments, please feel free to contact our Client Services department (702) 657-1010.

  
Stan Van Wagenen  
Laboratory Manager

5/15/96  
Date

**NEVADA ENVIRONMENTAL LABORATORY**

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

ANALYST: JW

METHOD: TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS by EPA 8015M, July 1992  
SAMPLE MATRIX: SOIL

CLIENT ID	DATE SAMPLED	NEL ID	RESULTS mg/kg	REPORTING LIMIT	EXTRACTED	ANALYZED
B-1@0.0	05/07/96	L9605064-01	ND	10 mg/kg	05/13/96	05/13/96
B-2@5.0	05/07/96	L9605064-03	ND	10 mg/kg	05/13/96	05/13/96
B-3@0.0	05/07/96	L9605064-04	ND	10 mg/kg	05/13/96	05/13/96
B-4@0.0	05/07/96	L9605064-05	ND	10 mg/kg	05/13/96	05/13/96
B-5@5.0	05/07/96	L9605064-06	ND	10 mg/kg	05/13/96	05/13/96
B-6@5.0	05/07/96	L9605064-08	ND	10 mg/kg	05/13/96	05/13/96
B-8@0.0	05/07/96	L9605064-09	ND	10 mg/kg	05/13/96	05/13/96

Note: The detection limit for oil is 50 mg/kg

**QUALITY CONTROL DATA (Total for Gasoline and Diesel Ranges):**

Sample ID	Result	Acceptable Range
Method Blank L960513-BLK	ND	<10 mg/kg
L960513-LCS	75% Recovery	67-110%

ND - Not Detected

## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-1@0.0  
NEL ID: L9605064-01

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	ug/kg	LIMIT		ug/kg	LIMIT
Acetone	ND	50 ug/kg	1,3-Dichloropropane	ND	5 ug/kg
Benzene	ND	5 ug/kg	2,2-Dichloropropane	ND	5 ug/kg
Bromobenzene	ND	5 ug/kg	1,1-Dichloropropene	ND	5 ug/kg
Bromochloromethane	ND	5 ug/kg	cis-1,3-Dichloropropene	ND	5 ug/kg
Bromodichloromethane	ND	5 ug/kg	trans-1,3-Dichloropropene	ND	5 ug/kg
Bromoform	ND	5 ug/kg	Ethylbenzene	ND	5 ug/kg
Bromomethane	ND	5 ug/kg	Hexachlorobutadiene	ND	5 ug/kg
2-Butanone	ND	25 ug/kg	2-Hexanone	ND	25 ug/kg
n-Butylbenzene	ND	5 ug/kg	Iodomethane	ND	5 ug/kg
sec-Butylbenzene	ND	5 ug/kg	Isopropylbenzene	ND	5 ug/kg
tert-Butylbenzene	ND	5 ug/kg	p-Isopropyltoluene	ND	5 ug/kg
Carbon disulfide	ND	5 ug/kg	Methylene chloride (Dichloromethane)	ND	50 ug/kg
Carbon tetrachloride	ND	5 ug/kg	4-Methyl-2-pentanone	ND	25 ug/kg
Chlorobenzene	ND	5 ug/kg	Methyl-t-butyl ether (MTBE)	ND	5 ug/kg
Chloroethane	ND	5 ug/kg	Naphthalene	ND	5 ug/kg
2-Chloroethyl vinyl ether	ND	5 ug/kg	n-Propylbenzene	ND	5 ug/kg
Chloroform	ND	5 ug/kg	Styrene	ND	5 ug/kg
Chloromethane	ND	5 ug/kg	1,1,1,2-Tetrachloroethane	ND	5 ug/kg
2-Chlorotoluene	ND	5 ug/kg	1,1,2,2-Tetrachloroethane	ND	5 ug/kg
4-Chlorotoluene	ND	5 ug/kg	Tetrachloroethene (PCE)	ND	5 ug/kg
Dibromochloromethane	ND	5 ug/kg	Toluene	ND	5 ug/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 ug/kg	1,2,3-Trichlorobenzene	ND	5 ug/kg
1,2-Dibromoethane (EDB)	ND	5 ug/kg	1,2,4-Trichlorobenzene	ND	5 ug/kg
Dibromomethane	ND	5 ug/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 ug/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 ug/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 ug/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 ug/kg	Trichloroethene (TCE)	ND	5 ug/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 ug/kg	Trichlorofluoromethane (Freon 11)	ND	5 ug/kg
Dichlorodifluoromethane (Freon 12)	ND	5 ug/kg	1,2,3-Trichloropropane	ND	5 ug/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 ug/kg	1,2,4-Trimethylbenzene	ND	5 ug/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 ug/kg	1,3,5-Trimethylbenzene	ND	5 ug/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 ug/kg	Vinyl chloride	ND	5 ug/kg
cis-1,2-Dichloroethene	ND	5 ug/kg	o-Xylene	ND	5 ug/kg
trans-1,2-Dichloroethene	ND	5 ug/kg	m,p-Xylene	ND	5 ug/kg
1,2-Dichloropropane	ND	5 ug/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	97	70-121%
Toluene-d8	104	81-117%
4-Bromofluorobenzene	96	74-121%
ND - Not Detected		

This report shall not be reproduced except in full, without the written approval of the laboratory.

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-2@5.0  
NEL ID: L9605064-03

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	µg/kg	LIMIT		µg/kg	LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-tert-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
2-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	97	70-121%
Toluene-d8	104	81-117%
4-Bromofluorobenzene	95	74-121%
ND - Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-3@0.0  
NEL ID: L9605064-04

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	µg/kg	LIMIT		µg/kg	LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropane	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-t-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
2-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	96	70-121%
Toluene-d8	103	81-117%
4-Bromofluorobenzene	98	74-121%
ND - Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-4@0.0  
NEL ID: L9605064-05

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	ug/kg	LIMIT		ug/kg	LIMIT
Acetone	ND	50 ug/kg	1,3-Dichloropropane	ND	5 ug/kg
Benzene	ND	5 ug/kg	2,2-Dichloropropane	ND	5 ug/kg
Bromobenzene	ND	5 ug/kg	1,1-Dichloropropane	ND	5 ug/kg
Bromochloromethane	ND	5 ug/kg	cis-1,3-Dichloropropene	ND	5 ug/kg
Bromodichloromethane	ND	5 ug/kg	trans-1,3-Dichloropropene	ND	5 ug/kg
Bromoforn	ND	5 ug/kg	Ethylbenzene	ND	5 ug/kg
Bromomethane	ND	5 ug/kg	Hexachlorobutadiene	ND	5 ug/kg
2-Butanone	ND	25 ug/kg	2-Hexanone	ND	25 ug/kg
n-Butylbenzene	ND	5 ug/kg	Iodomethane	ND	5 ug/kg
sec-Butylbenzene	ND	5 ug/kg	Isopropylbenzene	ND	5 ug/kg
tert-Butylbenzene	ND	5 ug/kg	p-Isopropyltoluene	ND	5 ug/kg
Carbon disulfide	ND	5 ug/kg	Methylene chloride (Dichloromethane)	ND	50 ug/kg
Carbon tetrachloride	ND	5 ug/kg	4-Methyl-2-pentanone	ND	25 ug/kg
Chlorobenzene	ND	5 ug/kg	Methyl-t-butyl ether (MTBE)	ND	5 ug/kg
Chloroethane	ND	5 ug/kg	Naphthalene	ND	5 ug/kg
2-Chloroethyl vinyl ether	ND	5 ug/kg	n-Propylbenzene	ND	5 ug/kg
Chloroform	ND	5 ug/kg	Styrene	ND	5 ug/kg
Chloromethane	ND	5 ug/kg	1,1,1,2-Tetrachloroethane	ND	5 ug/kg
2-Chlorotoluene	ND	5 ug/kg	1,1,2,2-Tetrachloroethane	ND	5 ug/kg
4-Chlorotoluene	ND	5 ug/kg	Tetrachloroethene (PCE)	ND	5 ug/kg
Dibromochloromethane	ND	5 ug/kg	Toluene	ND	5 ug/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 ug/kg	1,2,3-Trichlorobenzene	ND	5 ug/kg
1,2-Dibromoethane (EDB)	ND	5 ug/kg	1,2,4-Trichlorobenzene	ND	5 ug/kg
Dibromomethane	ND	5 ug/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 ug/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 ug/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 ug/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 ug/kg	Trichloroethene (TCE)	ND	5 ug/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 ug/kg	Trichlorofluoromethane (Freon 11)	ND	5 ug/kg
Dichlorodifluoromethane (Freon 12)	ND	5 ug/kg	1,2,3-Trichloropropane	ND	5 ug/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 ug/kg	1,2,4-Trimethylbenzene	ND	5 ug/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 ug/kg	1,3,5-Trimethylbenzene	ND	5 ug/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 ug/kg	Vinyl chloride	ND	5 ug/kg
cis-1,2-Dichloroethene	ND	5 ug/kg	o-Xylene	ND	5 ug/kg
trans-1,2-Dichloroethene	ND	5 ug/kg	m,p-Xylene	ND	5 ug/kg
1,2-Dichloropropane	ND	5 ug/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	96	70-121%
Toluene-d8	104	81-117%
4-Bromofluorobenzene	95	74-121%
ND = Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-5@5.0  
NEL ID: L9605064-06

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	ug/kg	LIMIT		ug/kg	LIMIT
Acetone	ND	50 ug/kg	1,3-Dichloropropane	ND	5 ug/kg
Benzene	ND	5 ug/kg	2,2-Dichloropropane	ND	5 ug/kg
Bromobenzene	ND	5 ug/kg	1,1-Dichloropropane	ND	5 ug/kg
Bromochloromethane	ND	5 ug/kg	cis-1,3-Dichloropropene	ND	5 ug/kg
Bromodichloromethane	ND	5 ug/kg	trans-1,3-Dichloropropene	ND	5 ug/kg
Bromoform	ND	5 ug/kg	Ethylbenzene	ND	5 ug/kg
Bromomethane	ND	5 ug/kg	Hexachlorobutadiene	ND	5 ug/kg
3-Butanone	ND	25 ug/kg	2-Hexanone	ND	25 ug/kg
n-Butylbenzene	ND	5 ug/kg	Iodomethane	ND	5 ug/kg
iso-Butylbenzene	ND	5 ug/kg	Isopropylbenzene	ND	5 ug/kg
tert-Butylbenzene	ND	5 ug/kg	p-Isopropyltoluene	ND	5 ug/kg
Carbon disulfide	ND	5 ug/kg	Methylene chloride (Dichloromethane)	ND	50 ug/kg
Carbon tetrachloride	ND	5 ug/kg	4-Methyl-2-pentanone	ND	25 ug/kg
Chlorobenzene	ND	5 ug/kg	Methyl-t-butyl ether (MTBE)	ND	5 ug/kg
Chloroethane	ND	5 ug/kg	Naphthalene	ND	5 ug/kg
2-Chloroethyl vinyl ether	ND	5 ug/kg	n-Propylbenzene	ND	5 ug/kg
Chloroform	ND	5 ug/kg	Styrene	ND	5 ug/kg
Chloromethane	ND	5 ug/kg	1,1,1,2-Tetrachloroethane	ND	5 ug/kg
2-Chlorotoluene	ND	5 ug/kg	1,1,2,2-Tetrachloroethane	ND	5 ug/kg
4-Chlorotoluene	ND	5 ug/kg	Tetrachloroethene (PCE)	ND	5 ug/kg
Dibromochloromethane	ND	5 ug/kg	Toluene	ND	5 ug/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 ug/kg	1,2,3-Trichlorobenzene	ND	5 ug/kg
1,2-Dibromoethane (EDB)	ND	5 ug/kg	1,2,4-Trichlorobenzene	ND	5 ug/kg
Dibromomethane	ND	5 ug/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 ug/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 ug/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 ug/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 ug/kg	Trichloroethane (TCE)	ND	5 ug/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 ug/kg	Trichlorofluoromethane (Freon 11)	ND	5 ug/kg
Dichlorodifluoromethane (Freon 12)	ND	5 ug/kg	1,2,3-Trichloropropane	ND	5 ug/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 ug/kg	1,2,4-Trimethylbenzene	ND	5 ug/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 ug/kg	1,3,5-Trimethylbenzene	ND	5 ug/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 ug/kg	Vinyl chloride	ND	5 ug/kg
cis-1,2-Dichloroethene	ND	5 ug/kg	o-Xylene	ND	5 ug/kg
trans-1,2-Dichloroethene	ND	5 ug/kg	m,p-Xylene	ND	5 ug/kg
1,2-Dichloropropane	ND	5 ug/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	96	70-121%
Toluene-d8	103	81-117%
4-Bromofluorobenzene	95	74-121%
ND - Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-6@5.0  
NEL ID: L9605064-08

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	µg/kg	LIMIT		µg/kg	LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropene	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-t-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
1-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	10	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

Success	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	97	70-121%
Toluene-d8	103	81-117%
4-Bromofluorobenzene	92	74-121%
ND - Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/07/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-8@0.0  
NEL ID: L9605064-09

ANALYZED: 05/1/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	µg/kg	LIMIT		µg/kg	LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropane	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropane	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropane	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-t-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
2-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,3-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	94	70-121%
Toluene-d8	104	81-117%
4-Bromofluorobenzene	88	74-121%
ND - Not Detected		

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: NA  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: Method Blank  
NEL ID: VBLK9605

ANALYZED: 05/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	µg/kg	LIMIT		µg/kg	LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-t-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
2-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropene	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

Surrogate	% Recovery	Acceptable Range
1,2-Dichloroethane-d4	98	70-121%
Toluene-d8	103	81-117%
4-Bromofluorobenzene	98	74-121%
ND - Not Detected		

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# NEVADA ENVIRONMENTAL LABORATORY

Las Vegas Division • 4208 Arcata Way, Ste. A • Las Vegas, NV 89039  
(702) 657-1010 • FAX: (702) 657-1577 • 1-800-366-5221

Company: TERRACON Alt.: Delane Fitzpatrick-Ma-1  
Address: 4243 S. Polaris Ave.  
Las Vegas Nevada 89102  
Phone No.: 597-9393 Fax No.:  
Billing Address: Expected Due Date:

Requested Turnaround: ☒ 5 Day (Normal) ☐ 48 Hr. ☐ 24 Hr. ☐ Other

Sample Date/Time	Sample ID	N.E.L. Identification	# of Containers	Matrix (Box #1)	Preservative (Box #2)	Expected Concentration (Box #3)	Analysis	Remarks
5-7-96 / 8:45	B-1 @ 0.0	L9605064-01	1	SO	EU	*	TPH 2015 VOC's 3260	
9:45	B-2 @ 0.0	-02						
10:00	B-2 @ 5.0	-03						
11:00	B-3 @ 0.0	-04						
11:30	B-4 @ 0.0	-05						
12:45	B-5 @ 5.0	-06						
3:00	B-6 @ 0.0	-07						
3:05	B-6 @ 5.0	-08						
4:00	B-8 @ 0.0	-09						

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Box #1  
DW - Drinking Water  
WW - Waste Water  
RW - RCRA Water  
OL - Oil  
SG - Sludge

SO - Soil  
SE - Solid  
AC - Aqueous  
A - Air

Box #2  
A. HCl  
B. HNO<sub>3</sub>  
C. H<sub>2</sub>SO<sub>4</sub>  
D. None

E. Ice Only  
F. Other  
G. Not Preserved

Box #3  
H - High  
M - Medium  
L - Low  
U - Unknown

Relinquished by (Print)	(Signature)	Date/Time	Received by (Print)	(Signature)	Date/Time
1 Stefan Hoffman		5-7-96 / 5:10	SCOTT JERNER		5/7/96 5:10
2					
3					
4					
5					

## CHAIN OF CUSTODY

Lab. Sample? ☐ N/A ☒ Sample  
Date/Time: 5/7/96

Project Name: Reserve Center Boring Project No.: 64967117  
P.O. No.: Sampled By: S. Hoffman

05/16/96 THU 14:27 FAX 17025979393

TERRACON  
WELL-LOG VOLUMES

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L9020

NEVADA ENVIRONMENTAL  
LABORATORY

Las Vegas Division • 4208 Arroyo Way, Ste. A • Las Vegas, NV 89030  
(702) 657-1010 • FAX (702) 657-1577 • 1-800-366-6221

Company: Terminex      Title: Delaware Fitzpatrick-Mo-1  
Address: 3303 S. Polaris Ave  
Las Vegas, Nevada  
Phone No.: 567-9393      Fax No.:  
Billing Address:      Registered Ohio Driver:

Requested Turnaround ☒ 5 Day (Normal) ☐ 48 Hr. ☐ 24 Hr. ☐ Other \_\_\_\_\_

Sample ID	Sample's Date/Time	NET Identification
1	2010-01-01 10:00:00	NET 1
2	2010-01-01 10:05:00	NET 2
3	2010-01-01 10:10:00	NET 3
4	2010-01-01 10:15:00	NET 4
5	2010-01-01 10:20:00	NET 5
6	2010-01-01 10:25:00	NET 6
7	2010-01-01 10:30:00	NET 7
8	2010-01-01 10:35:00	NET 8
9	2010-01-01 10:40:00	NET 9
10	2010-01-01 10:45:00	NET 10
11	2010-01-01 10:50:00	NET 11
12	2010-01-01 10:55:00	NET 12
13	2010-01-01 11:00:00	NET 13
14	2010-01-01 11:05:00	NET 14
15	2010-01-01 11:10:00	NET 15
16	2010-01-01 11:15:00	NET 16
17	2010-01-01 11:20:00	NET 17
18	2010-01-01 11:25:00	NET 18
19	2010-01-01 11:30:00	NET 19
20	2010-01-01 11:35:00	NET 20
21	2010-01-01 11:40:00	NET 21
22	2010-01-01 11:45:00	NET 22
23	2010-01-01 11:50:00	NET 23
24	2010-01-01 11:55:00	NET 24
25	2010-01-01 12:00:00	NET 25
26	2010-01-01 12:05:00	NET 26
27	2010-01-01 12:10:00	NET 27
28	2010-01-01 12:15:00	NET 28
29	2010-01-01 12:20:00	NET 29
30	2010-01-01 12:25:00	NET 30
31	2010-01-01 12:30:00	NET 31
32	2010-01-01 12:35:00	NET 32
33	2010-01-01 12:40:00	NET 33
34	2010-01-01 12:45:00	NET 34
35	2010-01-01 12:50:00	NET 35
36	2010-01-01 12:55:00	NET 36
37	2010-01-01 13:00:00	NET 37
38	2010-01-01 13:05:00	NET 38
39	2010-01-01 13:10:00	NET 39
40	2010-01-01 13:15:00	NET 40
41	2010-01-01 13:20:00	NET 41
42	2010-01-01 13:25:00	NET 42
43	2010-01-01 13:30:00	NET 43
44	2010-01-01 13:35:00	NET 44
45	2010-01-01 13:40:00	NET 45
46	2010-01-01 13:45:00	NET 46
47	2010-01-01 13:50:00	NET 47
48	2010-01-01 13:55:00	NET 48
49	2010-01-01 14:00:00	NET 49
50	2010-01-01 14:05:00	NET 50
51	2010-01-01 14:10:00	NET 51
52	2010-01-01 14:15:00	NET 52
53	2010-01-01 14:20:00	NET 53
54	2010-01-01 14:25:00	NET 54
55	2010-01-01 14:30:00	NET 55
56	2010-01-01 14:35:00	NET 56
57	2010-01-01 14:40:00	NET 57
58	2010-01-01 14:45:00	NET 58
59	2010-01-01 14:50:00	NET 59
60	2010-01-01 14:55:00	NET 60
61	2010-01-01 15:00:00	NET 61
62	2010-01-01 15:05:00	NET 62
63	2010-01-01 15:10:00	NET 63
64	2010-01-01 15:15:00	NET 64
65	2010-01-01 15:20:00	NET 65
66	2010-01-01 15:25:00	NET 66
67	2010-01-01 15:30:00	NET 67
68	2010-01-01 15:35:00	NET 68
69	2010-01-01 15:40:00	NET 69
70	2010-01-01 15:45:00	NET 70
71	2010-01-01 15:50:00	NET 71
72	2010-01-01 15:55:00	NET 72
73	2010-01-01 16:00:00	NET 73
74	2010-01-01 16:05:00	NET 74
75	2010-01-01 16:10:00	NET 75
76	2010-01-01 16:15:00	NET 76
77	2010-01-01 16:20:00	NET 77
78	2010-01-01 16:25:00	NET 78
79	2010-01-01 16:30:00	NET 79
80	2010-01-01 16:35:00	NET 80
81	2010-01-01 16:40:00	NET 81
82	2	

5/8-91	1:20	B-9E	0.0'	6960506.5-01
↓	7:40	B-9E	10.0'	-02
↓	7:24	B-10E	0.0	-03

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## CHAIN OF CUSTODY

[illegible]

**NEVADA ENVIRONMENTAL  
LABORATORY**

Las Vegas Division  
4208 Arcata Way, Suite A • Las Vegas, NV 89030  
(702) 657-1010 • Fax: (702) 657-1577  
1-800-368-5221

CLIENT: Terracon Consultants  
4343 S. Polaris Ave.  
Las Vegas, NV 89102

ATTN: Delane Fitzpatrick-Maul

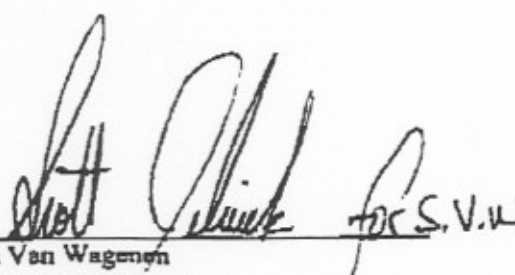
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

NEL ID: L9605065

Attached are the analytical results for samples in support of the above referenced project.

Samples submitted for this project on 05/08/96 were received in good condition and under chain of custody.  
Unless otherwise noted, no anomalies were associated with this project.

Should you have any questions or comments, please feel free to contact our Client Services department  
(702) 657-1010.

  
Stan Van Wagenen  
Laboratory Manager

05/15/96  
Date

**NEVADA ENVIRONMENTAL LABORATORY**

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

ANALYST: JW

METHOD: TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS by EPA 8015M, July 1992  
SAMPLE MATRIX: SOIL

<u>CLIENT ID</u>	<u>DATE SAMPLED</u>	<u>NEL ID</u>	<u>RESULTS mg/kg</u>	<u>REPORTING LIMIT</u>	<u>EXTRACTED</u>	<u>ANALYZED</u>
B-9@10.0	05/08/96	L9605065-02	ND	10 mg/kg	05/13/96	05/13/96
B-10@0.0	05/08/96	L9605065-03	ND	10 mg/kg	05/13/96	05/13/96

Note: The detection limit for oil is 50 mg/kg

**QUALITY CONTROL DATA (Total for Gasoline and Diesel Ranges):**

<u>Sample ID</u>	<u>Result</u>	<u>Acceptable Range</u>
Method Blank L960513-BLK	ND	<10 mg/kg
L960513-LCS	75% Recovery	67-110%

ND - Not Detected

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/08/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-9@10.0  
NEL ID: L9605065-02

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING LIMIT	PARAMETER	RESULT	REPORTING LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
1-Butanol	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl- <i>i</i> -butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
1-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
2-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	ND	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	ND	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

## Surrogate

## % Recovery

## Acceptable Range

1,2-Dichloroethane-d4  
Toluene-d8  
4-Bromofluorobenzene  
ND - Not Detected

97  
104  
95

70-121%  
81-117%  
74-121%

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: 05/08/96  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: B-10@0.0  
NEL ID: L9605065-03

ANALYZED: 05/10/96

PARAMETER	RESULT	REPORTING LIMIT	PARAMETER	RESULT	REPORTING LIMIT
Acetone	ND	50 µg/kg	1,3-Dichloropropane	ND	5 µg/kg
Benzene	ND	5 µg/kg	2,2-Dichloropropane	ND	5 µg/kg
Bromobenzene	ND	5 µg/kg	1,1-Dichloropropene	ND	5 µg/kg
Bromochloromethane	ND	5 µg/kg	cis-1,3-Dichloropropene	ND	5 µg/kg
Bromodichloromethane	ND	5 µg/kg	trans-1,3-Dichloropropene	ND	5 µg/kg
Bromoform	ND	5 µg/kg	Ethylbenzene	ND	5 µg/kg
Bromomethane	ND	5 µg/kg	Hexachlorobutadiene	ND	5 µg/kg
2-Butanone	ND	25 µg/kg	2-Hexanone	ND	25 µg/kg
n-Butylbenzene	ND	5 µg/kg	Iodomethane	ND	5 µg/kg
sec-Butylbenzene	ND	5 µg/kg	Isopropylbenzene	ND	5 µg/kg
tert-Butylbenzene	ND	5 µg/kg	p-Isopropyltoluene	ND	5 µg/kg
Carbon disulfide	ND	5 µg/kg	Methylene chloride (Dichloromethane)	ND	50 µg/kg
Carbon tetrachloride	ND	5 µg/kg	4-Methyl-2-pentanone	ND	25 µg/kg
Chlorobenzene	ND	5 µg/kg	Methyl-t-butyl ether (MTBE)	ND	5 µg/kg
Chloroethane	ND	5 µg/kg	Naphthalene	ND	5 µg/kg
2-Chloroethyl vinyl ether	ND	5 µg/kg	n-Propylbenzene	ND	5 µg/kg
Chloroform	ND	5 µg/kg	Styrene	ND	5 µg/kg
Chloromethane	ND	5 µg/kg	1,1,1,2-Tetrachloroethane	ND	5 µg/kg
3-Chlorotoluene	ND	5 µg/kg	1,1,2,2-Tetrachloroethane	ND	5 µg/kg
4-Chlorotoluene	ND	5 µg/kg	Tetrachloroethene (PCE)	ND	5 µg/kg
Dibromochloromethane	ND	5 µg/kg	Toluene	ND	5 µg/kg
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 µg/kg	1,2,3-Trichlorobenzene	ND	5 µg/kg
1,2-Dibromoethane (EDB)	ND	5 µg/kg	1,2,4-Trichlorobenzene	ND	5 µg/kg
Dibromomethane	ND	5 µg/kg	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 µg/kg
1,2-Dichlorobenzene (o-DCB)	ND	5 µg/kg	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 µg/kg
1,3-Dichlorobenzene (m-DCB)	ND	5 µg/kg	Trichloroethene (TCE)	ND	5 µg/kg
1,4-Dichlorobenzene (p-DCB)	ND	5 µg/kg	Trichlorofluoromethane (Freon 11)	ND	5 µg/kg
Dichlorodifluoromethane (Freon 12)	ND	5 µg/kg	1,2,3-Trichloropropane	ND	5 µg/kg
1,1-Dichloroethane (1,1-DCA)	ND	5 µg/kg	1,2,4-Trimethylbenzene	ND	5 µg/kg
1,2-Dichloroethane (1,2-DCA)	ND	5 µg/kg	1,3,5-Trimethylbenzene	ND	5 µg/kg
1,1-Dichloroethene (1,1-DCE)	ND	5 µg/kg	Vinyl chloride	ND	5 µg/kg
cis-1,2-Dichloroethene	ND	5 µg/kg	o-Xylene	16	5 µg/kg
trans-1,2-Dichloroethene	ND	5 µg/kg	m,p-Xylene	6	5 µg/kg
1,2-Dichloropropane	ND	5 µg/kg			

## QUALITY CONTROL DATA:

## Surrogate

## % Recovery

## Acceptable Range

1,2-Dichloroethane-d4

98

70-121%

Toluene-d8

102

81-117%

4-Bromofluorobenzene

91

74-121%

ND - Not Detected

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## NEVADA ENVIRONMENTAL LABORATORY

CLIENT: Terracon Consultants  
PROJECT NAME: Reserve Center Borings  
PROJECT NUMBER: 64967117

DATE SAMPLED: NA  
ANALYST: SJ

METHOD: VOLATILE ORGANIC COMPOUNDS by EPA 8260, July 1992  
SAMPLE MATRIX: SOIL

Client ID: Method Blank  
NEL ID: VBLK9605

ANALYZED: 05/1/96

PARAMETER	RESULT	REPORTING	PARAMETER	RESULT	REPORTING
	$\mu\text{g/kg}$	LIMIT		$\mu\text{g/kg}$	LIMIT
Acetone	ND	50 $\mu\text{g/kg}$	1,3-Dichloropropane	ND	5 $\mu\text{g/kg}$
Benzene	ND	5 $\mu\text{g/kg}$	2,2-Dichloropropane	ND	5 $\mu\text{g/kg}$
Bromobenzene	ND	5 $\mu\text{g/kg}$	1,1-Dichloropropane	ND	5 $\mu\text{g/kg}$
Bromochloromethane	ND	5 $\mu\text{g/kg}$	cis-1,3-Dichloropropene	ND	5 $\mu\text{g/kg}$
Bromodichloromethane	ND	5 $\mu\text{g/kg}$	trans-1,3-Dichloropropene	ND	5 $\mu\text{g/kg}$
Bromoform	ND	5 $\mu\text{g/kg}$	Ethylbenzene	ND	5 $\mu\text{g/kg}$
Bromomethane	ND	5 $\mu\text{g/kg}$	Hexachlorobutadiene	ND	5 $\mu\text{g/kg}$
2-Butanone	ND	25 $\mu\text{g/kg}$	2-Hexanone	ND	25 $\mu\text{g/kg}$
n-Butylbenzene	ND	5 $\mu\text{g/kg}$	Iodomethane	ND	5 $\mu\text{g/kg}$
sec-Butylbenzene	ND	5 $\mu\text{g/kg}$	Isopropylbenzene	ND	5 $\mu\text{g/kg}$
tert-Butylbenzene	ND	5 $\mu\text{g/kg}$	p-Isopropyltoluene	ND	5 $\mu\text{g/kg}$
Carbon disulfide	ND	5 $\mu\text{g/kg}$	Methylene chloride (Dichloromethane)	ND	50 $\mu\text{g/kg}$
Carbon tetrachloride	ND	5 $\mu\text{g/kg}$	4-Methyl-2-pentanone	ND	25 $\mu\text{g/kg}$
Chlorobenzene	ND	5 $\mu\text{g/kg}$	Methyl-t-butyl ether (MTBE)	ND	5 $\mu\text{g/kg}$
Chloroethane	ND	5 $\mu\text{g/kg}$	Naphthalene	ND	5 $\mu\text{g/kg}$
2-Chloroethyl vinyl ether	ND	5 $\mu\text{g/kg}$	n-Propylbenzene	ND	5 $\mu\text{g/kg}$
Chloroform	ND	5 $\mu\text{g/kg}$	Styrene	ND	5 $\mu\text{g/kg}$
Chloromethane	ND	5 $\mu\text{g/kg}$	1,1,1,2-Tetrachloroethane	ND	5 $\mu\text{g/kg}$
2-Chlorotoluene	ND	5 $\mu\text{g/kg}$	1,1,2,2-Tetrachloroethane	ND	5 $\mu\text{g/kg}$
4-Chlorotoluene	ND	5 $\mu\text{g/kg}$	Tetrachloroethene (PCE)	ND	5 $\mu\text{g/kg}$
Dibromochloromethane	ND	5 $\mu\text{g/kg}$	Toluene	ND	5 $\mu\text{g/kg}$
1,2-Dibromo-3-chloropropane (DBCP)	ND	5 $\mu\text{g/kg}$	1,2,3-Trichlorobenzene	ND	5 $\mu\text{g/kg}$
1,2-Dibromomethane (EDB)	ND	5 $\mu\text{g/kg}$	1,2,4-Trichlorobenzene	ND	5 $\mu\text{g/kg}$
Dibromomethane	ND	5 $\mu\text{g/kg}$	1,1,1-Trichloroethane (1,1,1-TCA)	ND	5 $\mu\text{g/kg}$
1,2-Dichlorobenzene (o-DCB)	ND	5 $\mu\text{g/kg}$	1,1,2-Trichloroethane (1,1,2-TCA)	ND	5 $\mu\text{g/kg}$
1,3-Dichlorobenzene (m-DCB)	ND	5 $\mu\text{g/kg}$	Trichloroethene (TCE)	ND	5 $\mu\text{g/kg}$
1,4-Dichlorobenzene (p-DCB)	ND	5 $\mu\text{g/kg}$	Trichlorofluoromethane (Freon 11)	ND	5 $\mu\text{g/kg}$
Dichlorodifluoromethane (Freon 12)	ND	5 $\mu\text{g/kg}$	1,2,3-Trichloropropane	ND	5 $\mu\text{g/kg}$
1,1-Dichloroethane (1,1-DCA)	ND	5 $\mu\text{g/kg}$	1,2,4-Trimethylbenzene	ND	5 $\mu\text{g/kg}$
1,2-Dichloroethane (1,2-DCA)	ND	5 $\mu\text{g/kg}$	1,3,5-Trimethylbenzene	ND	5 $\mu\text{g/kg}$
1,1-Dichloroethene (1,1-DCE)	ND	5 $\mu\text{g/kg}$	Vinyl chloride	ND	5 $\mu\text{g/kg}$
cis-1,2-Dichloroethene	ND	5 $\mu\text{g/kg}$	o-Xylene	ND	5 $\mu\text{g/kg}$
trans-1,2-Dichloroethene	ND	5 $\mu\text{g/kg}$	m,p-Xylene	ND	5 $\mu\text{g/kg}$
1,2-Dichloropropane	ND	5 $\mu\text{g/kg}$			

## QUALITY CONTROL DATA:

## Surrogate

## % Recovery

## Acceptable Range

1,2-Dichloroethane-d4  
Toluene-d8  
4-Bromofluorobenzene  
ND - Not Detected

99  
103  
99

70-121%  
81-117%  
74-121%

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